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THE PRESIDENT'S NATIONAL DEFENSE STOCKPILE MODERNIZATION PROPOSAL

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

ON THE

PRESIDENT'S JULY 8, 1985, NATIONAL DEFENSE STOCKPILE MODERNIZATION PROPOSAL AND ITS POTENTIAL IMPACTS ON THE DOMESTIC MINING INDUSTRY

NOVEMBER 14, 1985

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THE PRESIDENT'S NATIONAL DEFENSE STOCKPILE MODERNIZATION PROPOSAL

THURSDAY, NOVEMBER 14, 1985

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:10 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Chic Hecht presiding.

Present: Senators McClure, Warner, Hecht, Bumpers, Ford, and Bingaman.

Also present: Robert L. Terrell, professional staff member, and Patricia J. Beneke, counsel for the minority.

OPENING STATEMENT OF HON. CHIC HECHT, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator HECHT. Good morning. The hearing will proceed. Senator McClure has been called to the Senate floor and will return shortly. We have his opening statement and Senator Johnston and Senator Bingaman have statements for the record. I would like to give a brief opening statement for the panel, one of the later panels.

This is very important to the State of Nevada, which I am from. The McDermott Mine in Nevada is currently the only producer of mercury in the United States and it therefore is of importance not only to our State but to the Nation as well. Mercury is a critical material that has many commercial and material uses and is a vital component in the national security of the Nation.

We must take a careful and close look at the stockpile policies of this material. This is one critical material of our State. We are probably the most active in mineral exploration right now of any State in the Nation, and I'm very happy this hearing has been called.

[The prepared statements of Senator McClure, Senator Johnston, and Senator Bingaman follow:]

OPENING STATEMENT OF
SENATOR JAMES A. McCLURE
CHAIRMAN, COMMITTEE ON ENERGY AND NATURAL RESOURCES
NOVEMBER 14, 1985

GOOD MORNING. TODAY THE ENERGY AND NATURAL RESOURCES COMMITTEE WILL HEAR TESTIMONY FROM A VARIETY OF DISTINGUISHED WITNESSES FROM THE MINING AND RELATED INDUSTRIES REGARDING THE PRESIDENT'S JULY 8, 1985 NATIONAL DEFENSE STOCKPILE "MODERNIZATION" PROPOSAL. IN ADDITION, CONGRESSMAN CHARLES E. BENNETT, DISTINGUISHED CHAIRMAN OF THE SUBCOMMITTEE ON SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS OF THE HOUSE ARMED SERVICES COMMITTEE IS WITH US THIS MORNING TO PRESENT TESTIMONY ON THIS VERY IMPORTANT SUBJECT.

I WILL TELL MY COLLEAGUES THAT WHILE THE PRESIDENT'S JULY 8TH ANNOUNCEMENT TO "MODERNIZE" THE NATIONAL DEFENSE STOCKPILE IS MERELY A PROPOSAL, SUBJECT TO APPROVAL BY THE HOUSE AND SENATE ARMED SERVICES COMMITTEES, CONGRESSMAN BENNETT AND I FOUND THIS ANNOUNCED PROPOSAL TO BE SO EGREGIOUS THAT WE BOTH OFFERED AMENDMENTS TO LEGISLATION THEN PENDING IN BOTH HOUSES TO EFFECTIVELY REMOVE THE AUTHORITY OF THE PRESIDENT TO TAKE ANY ACTION WHATSOEVER TO ALTER STOCKPILE GOALS THAT WERE IN EFFECT ON OCTOBER 1, 1984. CLEARLY, THE ADMINISTRATION VIEWS OUR COLLECTIVE ACTIONS AS BEING EXTREME AND UNJUSTIFIABLE. HOWEVER, AFTER A CLOSE REVIEW OF THE PRESIDENT'S JULY 8TH ANNOUNCEMENT, CONGRESSMAN BENNETT AND I HAVE COME TO THE SAME CONCLUSION WITH RESPECT TO THE PRESIDENT'S ANNOUNCEMENT -- IT TOO WAS EXTREME AND UNJUSTIFIABLE. IN ADDITION TO OUR COLLECTIVE LEGISLATIVE ACTIONS, Congressman Bennett and I have asked the Comptroller General of the United States to undertake an immediate and comprehensive evaluation of the methodology and planning factors used by the National Security Council in its two-year study that resulted in the President's "modernization" proposal for the stockpile. That evaluation is currently underway.

Since today's hearing is open to the public, the Committee will be unable to discuss the National Security Council's comprehensive two-year study due to its classified nature. Despite this limitation, I believe that there is enough to discuss just by focusing on the contents of the President's July 8th proposal.

I would like to take this opportunity to express some of my specific concerns regarding the President's proposal. First, the stockpile goals in the President's Tier I purportedly consist of those materials that would be required during a protracted military conflict. I note, with some alarm, that several materials which are currently stockpiled are proposed to be severely reduced or zeroed-out in Tier I. Most notable among these are manganese, platinum group metals (iridium, palladium & platinum), and chromium. The United States is currently importing 99 percent of its manganese requirements from such bastions of stability as the Republic of South Africa and Gabon. We currently import over 80 percent of our chromium requirements and 91 percent of our Platinum Group Metals from such

SOURCES AS THE REPUBLIC OF SOUTH AFRICA AND THE SOVIET UNION. ARE WE TO INFER FROM THIS LEVEL OF DEPENDENCE THAT THE ADMINISTRATION BELIEVES THAT IN A NATIONAL EMERGENCY OR A PROTRACTED MILITARY CONFLICT WE CAN RELY UPON THESE SOURCES? WHILE I BELIEVE, DESPITE ITS POLITICAL PROBLEMS, THAT THE REPUBLIC OF SOUTH AFRICA WOULD LIKE TO CONTINUE TO BE A RELIABLE SOURCE OF THESE MATERIALS BOTH IN PEACETIME AND WARTIME, I CAN HARDLY IMAGINE THAT ANYONE WOULD BE NAIVE ENOUGH TO CONSIDER THE SOVIET UNION AS A RELIABLE SOURCE. IF BOTH THESE SOURCES ARE NOT CONSIDERED RELIABLE, THEN WHERE ARE WE SUPPOSED TO GET THESE MATERIALS IN TIME OF WAR? FURTHERMORE, IF THEY ARE NOT RELIABLE SOURCES, WHY ARE WE SELLING WHAT WE HAVE? CERTAINLY, THE ADMINISTRATION DOESN'T INTEND TO RELY UPON DOMESTIC SOURCES FOR THESE MATERIALS SINCE I AM ADVISED THAT THERE IS NO DOMESTIC PRODUCTION OF THESE MATERIALS AT THIS TIME.

SECOND, I AM PUZZLED OVER THE RATIONALE BEHIND CREATING A SO-CALLED "SUPPLEMENTAL RESERVE" OR TIER II. THE PRESIDENT'S PROPOSAL INDICATES THAT THIS RESERVE WILL CONTAIN MATERIALS THAT THE GOVERNMENT ALREADY POSSESSES AND WILL OFFER ADDITIONAL ASSURANCE AGAINST MATERIAL SHORTAGES DURING A PERIOD OF MILITARY CONFLICT. IT SEEMS TO ME THAT IF THE MATERIALS CONTAINED IN THE "SUPPLEMENTAL RESERVE" ARE ALREADY IN THE POSSESSION OF THE GOVERNMENT AND ARE VIEWED AS BEING USEFUL IN A MILITARY CONFLICT THEN WHY ARE THESE MATERIALS NOT CONTAINED WITHIN THE CATEGORY OF "STOCKPILE GOALS" OR TIER I? THERE IS ONE PLAUSIBLE EXPLANATION THAT I'VE FORMULATED IN MY OWN MIND AND THAT IS THAT THE

Administration views the "Supplemental Reserve" as a second phase of materials to be declared excess and subsequently sold. I find that prospect even more alarming than the first.

If I'm wrong, then I wonder why the Administration has placed 87,500,000 troy ounces of silver in the "Supplemental Reserve". As many of my colleagues know, the Administration has, from its beginning, declared silver excess to stockpile needs and aggressively sought authorization to sell all 137,500,000 troy ounces. While I have been successful in blocking such attempts in the past, I find it curious that the Administration has now determined that only 50,005,707 troy ounces is excess.

Unfortunately, my concerns and those of my colleagues cannot be addressed today since the Administration has not seen fit to provide a witness for this hearing. Perhaps the conspicuous absence of an Administration witness today represents a rethinking of the July 8th proposal. I certainly hope so.

Again, I would like to welcome the distinguished witnesses appearing before the Committee today, many of whom are not only old friends but experts in their respective fields of endeavor. Welcome.

11/14/85

STATEMENT BY SENATOR JOHNSTON

I WELCOME THE WITNESSES APPEARING BEFORE THE COMMITTEE TODAY FOR THIS HEARING RELATING TO THE PRESIDENT'S NATIONAL DEFENSE STOCKPILE "MODERNIZATION" PROPOSAL OF JULY 8, 1985, AND THE POTENTIAL IMPACTS ON THE DOMESTIC MINING INDUSTRY. I DO, HOWEVER, REGRET THAT THE ADMINISTRATION HAS DECLINED TO PRESENT TESTIMONY HERE THIS MORNING, DESPITE THE FACT THAT I UNDERSTAND SENATOR MCCLURE INVITED THE ATTENDANCE OF AN ADMINISTRATION WITNESS. I FURTHER REGRET THAT THE ADMINISTRATION DID NOT FACILITATE THE REVIEW BY MY STAFF OF THE INTERDEPARTMENTAL STUDY UPON WHICH THE PRESIDENT'S PROPOSAL IS BASED.

I, FOR ONE, HAVE MANY QUESTIONS REGARDING THE PRESIDENT'S PROPOSALS AND THE BASES FOR THEM. I HOPE THAT THE ADMINISTRATION WILL BE MORE FORTHCOMING IN THE FUTURE IN PROVIDING INFORMATION REGARDING THIS PROPOSAL.

STATEMENT BY SENATOR JEFF BINGAMAN
Oversight Hearing on Stockpile "Modernization"
November 14, 1985

I want to thank Chairman McClure for holding this hearing and for his leadership on this important issue. I am extremely concerned with the President's plan to modernize the National Defense Stockpile of strategic and critical minerals and materials. The plan proposes to reduce dramatically many goals that have been established in the past for minerals and materials in the National Defense Stockpile. This stockpile is intended to safeguard the United States against a supply emergency so that military, industrial, and essential civilian needs can be met in times of war or declared national emergency.

As I understand the proposal, a two tiered system would be set up for materials in the stockpile. The quantities and values of materials to be placed in Tier I and Tier II compared against previously established stockpile goals would result in a surplus totaling approximately $3.2 billion. A large percentage of the proceeds for the sale of this surplus would go towards reducing the federal deficit according to the President's plan.

This deficit reduction scheme is in clear violation of the principles of Strategic and Critical Materials Stockpiling Revision Act of 1979 which clearly state that the purpose of the stockpile is to serve the interest of national defense only and is not to be used for economic or budgetary purposes.

Additionally, the 1979 Act mandates that the quantities of stockpile materials "should be sufficient to sustain the United States for a period of not less than three years in the event of a national emergency." The President's proposal would reduce this level to just over one year for some materials.

At many times in the past, materials that were sold as surplus were later reacquired at a higher cost thus imposing a substantial burden on the taxpayer. The domestic mining industry has suffered the brunt of this misguided government policy because of the increasing market disruptions they have caused.

I am especially worried about how this proposal will affect the domestic copper industry. Copper has direct military uses and was one of three critical materials during

World War II and the Korean War on which the allocation systems for war production were based. Stockpile goals for copper have fluctuated greatly in the past. The Carter Administration had set a goal of 1,300,000 tons which was never reached. However, under the President's plan the current reserve of 29,048 tons would be the new goal for the stockpile. This amount bears no relationship to our nation's copper requirements in war or in peace time. I hope the witnesses today will provide more information on the strategic importance of copper to our economy and what affect the plan would have on the industry.

Just yesterday, the Senate took action to deal with the deteriorating condition of the industry caused by unfair foreign competition. The Congress was forced to act because the President refused to take any effective steps to deal with the problem. The Congress may be forced to take additional action with respect to this plan.

Conclusion

It is clear from the testimony we will receive today that the President's proposed modernization proposal will have a detrimental impact on our mining industries and our national security. Senator McClure has recognized the disruptive consequences of frequent changes in stockpile goals and has sought to bring some stability to the program. I applaud his efforts.

I regret the Administration was unwilling to testify today on its proposal. I have several questions for the Administration which I would like to to be answered. I will submit these for the record.

I want to thank all the witnesses for coming today and providing the Committee your views on this important issue.

Senator HECHT. The Honorable Charles E. Bennett.

Mr. BENNETT. Yes, sir.

Senator HECHT. Would you like to proceed?

Mr. BENNETT. I would like to, if I could.

Senator HECHT. We're trying to accommodate you.

STATEMENT OF HON. CHARLES E. BENNETT, A U.S. REPRESENTATIVE FROM THE STATE OF FLORIDA

Mr. BENNETT. I deeply appreciate that, Mr. Chairman.

I welcome this opportunity to testify before the committee on this subject of mutual concern, the National Defense Stockpile of strategic and critical materials. For over 30 years, the National Defense Stockpile enjoyed informed bipartisan support based on the realization that the United States is extremely vulnerable to a wartime cutoff of many vital raw materials.

Many Americans, including myself, remember the difficulties of obtaining materials after Pearl Harbor. It should be remembered that the stockpile was created to preclude, when possible, a dangerous and costly dependence by the United States upon foreign sources for supplies of such materials in times of national emergency.

Mr. Chairman, I would like to, if I could, put my whole statement in the record.

Senator HECHT. Your statement will be a matter of the record.

Mr. BENNETT. All right. Then I'll take from it.

Senator HECHT. Fine.

Mr. BENNETT. It is ironic that the National Security Council study is predicated on the assumption that the domestic mining industry would be able to produce a large share of our needed wartime material. If we were forced to go to war, we would have to embark on massive production of conventional defense equipment and munitions.

To accomplish this surge in production, we badly need surge preparedness. To ensure that raw materials are immediately available for such a surge, the Congress and the executive branch established the National Defense Stockpile. I would like to quote from a letter which was written to Senator Case in 1963 by President Eisenhower. He stated:

> The Nation's investment in these stockpiles is comparable to the investment made in any insurance policy. If an emergency does not arise, there are always those who can consider the investment a waste. If, however, the investment has not been made and the emergency did arise, these same persons would bemoan, and properly so, the lack of foresight on the part of those charged with the security of the United States.

Mr. Chairman, that's the end of the quotation of President Eisenhower. Mr. Chairman, I must ask the question, Does the National Security Council really believe that our current stockpile goal of approximately $16 billion can be reduced to only $700 million and still meet the massive requirements for materials that will be needed in any future emergency?

Basic common sense tells me this consideration or recommendation is basically erroneous. Certainly we've had a lot of testimony in the past that would show that to be so.

Past administrations have repeatedly tried to manipulate stockpile goals for economic and budgetary purposes. These manipulations have included financing Great Society programs through stockpile generated revenues, fighting inflation by disposing of stockpile materials to depress mineral prices, selling off the Nation's stockpile assets to reduce the Federal deficit.

The 96th Congress attempted to rectify these abuses by passing the—that's the 96th Congress, in 1979 did that. But they were not successful in really stopping that movement.

I believe the administration proposal to reduce stockpile goals by over 95 percent is in violation of section 3(b) of that bill I just referred to, which states that: "The purpose of the stockpile is to serve the interest of national defense only, and is not to be used for economic or budgetary purposes."

The congressional response by your Senate Committee on Energy and Natural Resources and the House Committee on Armed Services to the administration's proposal recently made has been to prohibit during fiscal year 1986 any reduction of any stockpile goals below the levels of October 1, 1984. This is a reasonable action given the apparent budgetary motives of the administration's proposal to drastically reduce stockpile goals.

I believe further congressional action is needed to prevent the administration from crippling the National Defense Stockpile. I have introduced H.R. 3743 which, among other things, provides that: One, the stockpile goals shall be determined by law rather than by administrative action; two, the appropriations for the operation and content of the National Defense Stockpile and the National Defense Stockpile Transaction Fund shall be made to the Department of Defense for their management.

This legislation is needed to restore the national security purposes of the stockpile program. Furthermore, if the administration does not forward the 1986 and 1987 annual materials plans to Congress with the 1987 Federal budget, as required by the 1979 Stockpiling Act, I will recommend that the Armed Services Committee develop its own 1987, fiscal year 1987 materials plan for inclusion in the fiscal year 1987 defense authorization bill.

The National Security Council proposal to descimate the stockpile seems to me to be a paradox, the paradox of this century, as a matter of fact. On the one hand, the President is bent on a strong defense policy, which we all agree with, while on the other hand he is being advised to sell off the very stockpile material that would be required to sustain our fighting forces in an emergency. I believe that the national security considerations must take priority over short-term budgetary gain.

To assure that the National Defense Stockpile continues to contain the quantities and qualities of strategic and critical materials necessary to meet our long-term national security interests, my subcommittee plans to hold hearings in the near future on the proposed stockpile goals and the proposed stockpile legislation in H.R. 3743 mentioned above.

Mr. Chairman, this concludes my statement and my whole statement will be in the record, as you say, and I'm prepared to answer any questions that you might want to ask.

This is a further effort on your part and on my part and on the part of the House and the Senate working together to see to it that we have adequate stockpile material. After all, these materials are assets of the U.S. Government.

They're just like money in the bank. My experience has been with them that they've made money for the Government. Only a few instances have ever been to the contrary, and those have by and large been instances where the products we got into the stockpile really didn't come there because of the stockpile material implications, but rather because some country wanted to give something to us in return for something else and we got something that wasn't really all that good as far as the stockpile was concerned.

But the things we procured have made money for the Government. They haven't lost money for the Government. So it's a real asset. It's like money in the bank, and in fact it draws better interest than lots of times our banks have provided.

So Mr. Chairman, that's my testimony before you. I want to congratulate you on what you're doing and want you to know that we're working right with you and want to help you accomplish your objectives, which are the same as our own.

[The prepared statement of Mr. Bennett follows:]

STATEMENT OF THE HONORABLE CHARLES E. BENNETT, CHAIRMAN, SUBCOMMITTEE ON SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS, HOUSE COMMITTEE ON ARMED SERVICES
BEFORE THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

November 14, 1985

Mr. Chairman and Members of the Committee:

I welcome the opportunity to testify before this Committee on a subject of mutual concern - the National Defense Stockpile of strategic and critical materials. Although this hearing is convened to discuss the impact of the Administration's proposed stockpile goals on the domestic mining industry, I will focus my remarks primarily on the impact of this proposal on the national security.

For over thirty years the National Defense Stockpile enjoyed informed bipartisan support based on the realization that the United States is extremely vulnerable to a wartime cutoff of many vital raw materials. Many Americans, including myself, remember the difficulties in obtaining these materials after Pearl Harbor. It should be remembered that the stockpile was created "to preclude, when possible, a dangerous and costly dependence by the United States upon foreign sources for supplies of such materials in times of national emergency." If this country is ever again required to produce vast quantities of military equipment necessary to support our forces in a major global conflict, the ability of the American defense industry to rapidly surge the production of combat items is absolutely essential. Past experience has demonstrated that this country's industrial base can produce enormous quantities of war materiel if adequate supplies of raw materials are available.

The domestic mining industry, which already faces serious competitive problems from abroad, would be further weakened if the proposed reduction in stockpile goals are implemented because stockpile sales would further depress mineral prices. This would leave the mining industry less capable of meeting wartime defense requirements. It is ironic that the National Security Council's study is predicated on the assumption that the domestic mining industry would be able to produce a large share of our needed wartime materials.

Since 1980 the United States has been engaged in a substantial defense buildup including major purchases of conventional weapons. If we are serious about the conventional buildup, we must also be serious about sustaining our conventional fighting forces. If we were forced to go to war we would have to embark on the massive production of conventional defense equipment and munitions. To accomplish this surge in production we badly need surge preparedness. To insure that raw materials are immediately available for such a surge in production, the Congress and the Executive Branch established the National Defense Stockpile.

I would like to quote from a September 24, 1963, letter from President Dwight D. Eisenhower to Senator Clifford P. Case detailing his reasons for establishing in 1954 long-term policies for stockpile acquisitions to insure that we would never again enter a war faced with serious shortages of strategic materials. President Eisenhower stated: "The Nation's investment in these stockpiles is comparable to the investment made in any insurance policy. If an emergency does not arise, there are always those who can consider the investment a waste. If, however, the investment had not been made and the emergency did arise, these same persons would bemoan, and properly so, the lack of foresight on the part of those charged with the security of the United States. I firmly rejected the policy of too-little, too-late stockpiling. As a result when my Administration left office in 1961, the Nation was strongly situated in this regard to deal with the forces of international communism." I would be happy to provide the entire text of President Eisenhower's letter for the record.

Mr. Chairman, I must ask the question - Does the National Security Council really believe that our current stockpile goal of approximately $16 billion can be reduced to $700 million and still meet the massive requirements for materials that will be needed in any future emergency? Basic common sense tells me that this recommendation has to be dead wrong.

It should be remembered that during World War II the U.S. produced 310,000 aircraft, 88,000 tanks, 10 battleships, 358 destroyers, 211 submarines, 27 aircraft carriers, 411,000 artillery tubes and howitzers, 12,500,000 rifles and carbines, and approximately 900,000 trucks and motorized weapons carriers. The hard lessons of past wars have evidently been forgotten by both the Office of Management and Budget and the National Security Council who seem to have joined together to sell off the nation's stockpiles for economic and budgetary purposes.

At the request of the Subcommittee on Seapower and Strategic and Critical Materials of the House Armed Services Committee, and the Senate

Committee on Energy and Natural Resources, the General Accounting Office is reviewing the methodology and assumptions of the stockpile study that led to the President's July 8 announcement proposing reductions in stockpile goals. Extraordinary efforts by the National Security Council to classify the entire study and to prevent a free congressional dialogue with the departments and agencies involved in the study raise serious questions about the validity of the assumptions and the underlying motives for the Administration's stockpile proposal.

Past Administrations have repeatedly tried to manipulate stockpile goals for economic or budgetary purposes. These manipulations have included financing "Great Society" programs through stockpile generated revenues; fighting inflation by disposing of stockpile materials to depress mineral prices; and selling off the nation's stockpile assets to reduce the federal deficit. The 96th Congress attempted to rectify these abuses by enactment of the Strategic and Critical Materials Stock Piling Revision Act of 1979.

I believe that the Administration's proposal to reduce stockpile goals by over 95 percent is in violation of Section 3(b) of the Strategic and Critical Materials Stock Piling Act of 1979 which states that "the purpose of the stockpile is to serve the interest of national defense only, and is not to be used for economic or budgetary purposes." In fact the President's July 8, 1985 statement discusses the use of receipts from stockpile sales, and I quote "the remainder will go to reduce the deficit."

The Strategic and Critical Materials Stock Piling Act of 1979 also established the Stockpile Transaction Fund to provide moneys to acquire vitally needed materials such as platinum, chromium, titanium and cobalt. The National Defense Stockpile Transaction Fund includes revenues received from the sale of excess stockpile material as well as direct appropriations. The purpose of the fund is also to further discourage stockpile disposals for economic or budgetary purposes.

Recently, we included a provision in the Defense Authorization Act to transfer 30 percent of the net proceeds from the Naval Petroleum and Oil Shale Reserves into the Transaction Fund in Fiscal Years 1985 and 1986. The Administration responded by failing to submit a FY 1986 Annual Materials Plan as required by law and, according to the General Accounting Office, impounded appropriated moneys by not purchasing needed materials in accordance with their own FY 1985 Annual Materials Plan.

Today the Transaction Fund contains over $430 million which is still available for the acquisition of materials for the National Defense Stockpile. These funds should be properly spent for high priority strategic and critical materials for which the U.S. is heavily dependent on unreliable foreign sources.

The Congressional response by your Senate Committee on Energy and Natural Resources and the House Committee on Armed Services to the Administration's proposal has been to prohibit during Fiscal Year 1986 any reduction of any stockpile goals below the levels of October 1, 1984. This is a reasonable action given the apparent budgetary motives for the Administration's proposal to drastically reduce stockpile goals.

However, I believe further congressional action is needed to prevent the Administration from crippling the National Defense Stockpile. I have introduced H.R. 3743 which, among other things, provides that:

(1) Stockpile goals shall be determined by law rather than by Administrative action;

(2) Appropriations for the operation and content of the National Defense Stockpile and from the National Defense Stockpile Transaction Fund shall be made to the Department of Defense;

This legislation is needed to restore the national security purpose of the stockpile program. Furthermore, if the Administration does not forward the FY 1986 and FY 1987 Annual Materials Plans to Congress with the FY 1987 Federal budget, as required by the 1979 Stock Piling Act, I will recommend that the Armed Services Committee develop its own FY 1987 Materials Plan for inclusion in the FY 1987 Defense Authorization Bill.

The President has been ill-served by those who have advised him to curtail and virtually eliminate the National Defense Stockpile. I would remind the committee that as a result of a similar 1976 stockpile study, President Ford approved the stockpile goals which the National Security Council is now proposing to drastically reduce. President Ford opted for a larger stockpile because he felt it provided greater national security. After careful restudy in 1977, President Carter reaffirmed President Ford's stockpile goals.

The National Security Council proposal to decimate the stockpile seems to me to be the paradox of the century. On the one hand, the President is bent on a strong defense policy while, on the other hand, he is being advised to sell off the very stockpile materials that would be required to sustain our fighting forces in an emergency. I believe that national security considerations must take priority over short-term budgetary gains.

To assure that the National Defense Stockpile continues to contain the quantities and quality of strategic and critical materials necessary to meet our long-term national security interests, my subcommittee plans to hold hearings in the near future on the proposed stockpile goals and the proposed stockpile legislation in H.R. 3743 mentioned above.

Mr. Chairman, that concludes my prepared remarks. I am prepared to answer any questions that you or members of your Committee may wish to ask.

Senator HECHT. Thank you, Congressman. I have no questions, but I'm in complete agreement.

Senator Ford, did you have an opening statement?

Senator FORD. No, Mr. Chairman, I do not.

Senator HECHT. Do you have a question?

Senator FORD. I have a question or two for my good friend.

Mr. BENNETT. We are good friends. We've both gone wading in the Elk Horn River.

Senator FORD. That's right. I want to tell you, when you've been there you've been probably everyplace, too. [Laughter.]

Mr. BENNETT. I've got two Revolutionary ancestors buried on the banks of the Elk Horn.

Senator FORD. Well, I don't know where my Revolutionary ancestors are, but may they rest in peace. [Laughter.]

Mr. BENNETT. You're pretty revolutionary yourself.

Senator FORD. I try to be. You can't get ahead of a fellow that has a Kentucky background.

Congressman, I have just a couple of questions, maybe three. Do you think the current stockpile goals are adequate to provide a 3-year supply of strategic materials, as required by law?

Mr. BENNETT. No, I do not.

Senator FORD. Are you convinced—or what are your thoughts about the President's new proposed goals? In your opinion are they adequate to provide a 3-year supply?

Mr. BENNETT. In my opinion, they are vastly inadequate to provide the needed supply.

Senator FORD. This becomes a very touchy question, but do you think the recent events in South Africa will affect our stockpile policy?

Mr. BENNETT. Well——

Senator FORD. And if it will, how will it affect it?

Mr. BENNETT. I think only the Lord knows, and I pray about it every night, and the Philippines as well, because not only the stockpile and the material aspects of these two fine groups of people, but that somehow or another they can find answers politically that do not cause bloodshed.

But if what happens in South Africa is what one could predict probably would happen unless the Lord intervenes or the hearts of the people are touched in some way, then it's not likely we're going to get some of the most important stockpile materials that we want to acquire. Magnesium, for instance, we'd have to get it all or most of it from Russia, and that's not a very likely place to get it.

Senator FORD. Well, that leads me to another question then, since you answered it the way you did. Do you see then a need for additional Federal support for research and development of new technologies in the strategic materials area?

Mr. BENNETT. I see a need, but I see an urgency beyond that need to really get the materials in the stockpile. As I mentioned, these aren't things that are lost. This is not a dead thing. This is actually a good investment.

So I think the research ought to continue or be advanced, and not only accelerated but begun to do this sort of thing, and it would be helpful to everybody if it would occur. But we don't know that it can occur and therefore it's not prudent for us to rely upon that possibility.

Senator **Ford**. There have been some statements made that there has been a lot of manipulated budgetary figures. Do you believe that the stockpile policies are being manipulated for budgetary purposes, contrary to law?

Mr. **Bennett**. I do believe that.

Senator **Ford**. How do you prevent that?

Mr. **Bennett**. How do we do what?

Senator **Ford**. How do you prevent that?

Mr. **Bennett**. I've been struggling along with several Senators to try to do what I could do. But H.R. 3743, I would welcome cointroduction of this. It's a bill which removes from the hands of the President and puts in the hands of the Congress by law to fix the stockpile content. A problem with leaving it in the hands of the President, it's not really in his hands. If it were in the hands of President Reagan and he personally handled it, I wouldn't have a problem about it.

The problem is it's way down in the levels of bureaucracy and he just gets recommendations and that's about it. If he had the time to give to this stockpile like you and I are giving to it, I wouldn't have any problem about it at all. But this law will change that and put it in the hands, so it's the law in the future that's going to affect it.

The President would also be involved in it because he would have to sign the law.

Senator **Ford**. Right.

Mr. **Bennett**. But the Congress would take the initiative. And that's obviously needed, because right now the OMB runs the stockpile and they run it as a way of paying off debts.

Senator **Ford**. They're running the Government.

Mr. **Bennett**. That's correct.

Senator **Ford**. Thank you, sir. I appreciate you being here today and I appreciate your candor and nice words. And if I'm ever over on the House side, I'll reciprocate.

Mr. **Bennett**. God bless you.

Senator **Ford**. Thank you, sir.

Mr. **Bennett**. Thank you all very much for letting me be here. I'm sorry I'm going to rush, but it's a question of time, of me getting over there in 15 minutes if they had a vote. Of course, I've got a beeper with me, but I haven't missed a vote in 34 years and I'm not about to now.

Thank you a lot.

Senator **Hecht**. Thank you, Mr. Congressman.

The first panel is Mr. Andrews, Mr. Strauss, and Mr. Ary.

Senator Ford, I am going to have to leave.

Senator **Ford**. So am I. It's the majority's responsibility. [Laughter.]

Now, if you want to turn the majority over to us, I'll take responsibility for the hearing. [Laughter.]

Senator **Hecht**. That is not in my power.

Senator **Ford**. Yes. I wanted to be here for my good friend Congressman Bennett, and I regret that I have to be away from here also. I know the chairman and the ranking member are both on the floor. They have bills and they're trying to work out time agreements on reconciliation. It makes it very difficult for us today.

Senator **Hecht**. What's your timeframe?

Senator **Ford**. Like now. [Laughter.]

I would be glad to try to work something out, but it would be very difficult to do it.

Senator **Hecht**. Well, let us start.

Mr. Andrews, will you start.

STATEMENT OF E.F. ANDREWS, RETIRED CONSULTANT, MATERIALS AND SERVICES, ALLEGHENY INTERNATIONAL, INC.

Mr. **Andrews**. Thank you very much, Mr. Chairman.

As one who's made a lot of speeches, I've had a lot of times when the audience got up and left, but I've kind of gotten used to it. [Laughter.]

I even had one fall out a window one time.

Senator **Hecht**. You're better off to have the audience leave than to have them ask you a lot of embarrassing questions.

Mr. **Andrews**. No one's ever asked me any embarrassing questions.

Thank you very much for this opportunity, and I do have a prepared statement which I submitted to the staff, and I would like to have it entered in the record.

Senator **Hecht**. It will be entered in the record.

Mr. **Andrews**. I'll speak very briefly and outline it for you, if it's all right with you.

I have chosen to confine my remarks directly to the new proposals or recommendations of the present administration, and my colleagues here are prepared to go into greater depths in any part of it. I spent about 35 to 40 years of my career as a vice president of a major consumer of base metals, traveling the world over, responsible for the acquisition of them, and therefore have watched the world supply system and the stockpile, and have been both critical and complimentary.

Anyone who lived through the sixties and the vanadium and molybdenum shortages of that time while we were waiting on new capacity to come on stream knows that by the adroit handling of the stockpile on the part of the Government and the cooperation from the consumers and the producers we avoided what could have been a very, very serious market disruption and a very costly one.

And I have complimented the Government and the stockpile, but I have also been one of its biggest critics when it sells off at a low price, as we did for 10 years in cobalt, and buy it back at a higher price, when the administration has tried to use the stockpile to break a price increase or to break a strike, and more commonly, as during the Kennedy, Johnson, and Nixon administrations, to use the stockpile for the purpose of balancing the budget.

It's for these reasons that I have been an advocate for a long time of changing the management of the stockpile, getting it out of the hands—and I have recommended it go into a Federal reserve board for materials or a Government corporation or something of that sort.

Now, speaking directly to the stockpile, the stockpile you cannot view in a vacuum. It is a court of last resort. After we have examined all of our other alternatives and the economic feasibility of them and the scientific feasibility of them and none of them cover us, then we stockpile. It is that court of last resort.

It has turned out to be, as Congressman Bennett just said, profitable generally. But remember this: The stockpile does one thing for you and one thing only; it buys time, time to work out and to ride out short-term interruptions and time to find more permanent alternatives to what we perceive to be long-term interruptions.

In 1979, as we all know and as Congressman Bennett just said, we were told that we were to prepare for a 3-year conventional war that would cover the material, industrial, and essential civilian needs in such a global material conflict.

Well, let's see how these new proposals meet up to that challenge and the new goals that they've put. As I examine them—and understand, sir, that I am not privy to the numerical foundation behind the assumptions they have used to arrive at these goals, which are considered confidential or secret, and therefore I'm going on what I have seen published and what I've heard members of the administration say in the public and in the press.

I have to say, I feel like saying, here we go again, as we did in the Kennedy, Johnson, Nixon stockpile abuses. Now, let's examine, however, the basic assumptions that usually are used and go here. I want to make basically three points and I will use chromium as my example because that's the metal I am most familiar with, but certainly a case could be made for vanadium and palladium, platinum and manganese and several other metals.

As I understand the stockpile, we're going to take the goal down to 4½ months, and we're taking, once we add the supplemental stockpile in, it'll go to a little over a year and a half. How do we make up the difference and how do we say we have 3 years protection of material, industrial, and essential civilian use when we have 4½ months supply, or at best 1½ years supply?

Well, usually we say we're going to make it up in four different ways. First, we're going to curtail civilian consumption. Chromium is probably the most unsubstitutable and essential metal that we're dealing with today. Without chromium, we impact our transportation system, communication, environment, sanitary laws, environmental laws, computers, modern housing, modern living, and machine tools.

We'd have to repeal our sanitary laws, close our restaurants, stop processing food, and hire more people in the Food and Drug Administration because of the increase in ptomaine poisoning that would undoubtedly occur. These are essential.

Are we going to take the American housewife and take away her microwave oven and her Lean Cuisine? I don't think any politician, including Ronald Reagan, could stand that much ire in one time.

This is what we're saying: These things are essential. They're not essential in Ethiopia. They're not essential in Mozambique. Indeed, to a great many European countries they are not. But to the American way of life these are essential.

And I rather suggest, sir, that rather than have that global war, what we're probably going to have is a Vietnam regional conflict, mobilizing 500 or more men, 500,000 or more men, an all-out war effort as we did in Vietnam. But the administration will adopt a guns-and-butter policy, as they did then. And I don't think we're going to make up a whole lot, but rather I would think consumption of chromium would rise.

The second thing we're going to do, we're going to stop buying from South Africa, our major source of supply, and we're going to buy from the rest of the world. Well, that's very fine. 75 percent of our high carbon ferrochrome comes out of South Africa. But you cannot escape the fact that 96 percent of the world's known supply of chromium is in southern Africa. Three percent of it is in the Soviet Union or behind the Iron Curtain, in the Soviet Union, Albania, and so forth, and 1 percent in the rest of the world.

To rely on that, we're saying we're going to place the national security of the United States and the Western World in reliance on 1 percent of the world's supply. That doesn't do me very much good.

The fourth thing we're going to do, we're going to increase the consumption of scrap. Whenever I see these quotations of scrap, chromium, for example, being 86 percent imported and the balance is scrap, that's very misleading. Scrap is a closed circuit.

We put scrap in a furnace, 10 percent or 20 percent of the heat we put in as scrap. It comes out as an ingot. We crop off; that goes back in the furnace. Then it becomes a billet and we crop it off; that goes back in the furnace. Then it becomes a sheet or a strip and we crop it off, and that goes back in the furnace. Then we sell it to a customer and he makes a stamping, and the part that's not stamped out goes back in the furnace.

It's a closed circuit. That 14 percent just keeps going around and around and around and around. So we import 100 percent virtually of that amount of chrome that goes into the useful marketplace.

Now, how are we going to increase, then, the consumption of scrap? Are we going to say, for example, we're going to stop making automobiles, we're going to stop making toasters? We want you to use them longer because that's the nonessential, but we also want you to scrap them sooner so we can get the scrap back? I don't see much coming from that source of supply.

Senator HECHT. Mr. Andrews, I'm sorry, I'm going to have to interrupt you. We are going to have a temporary recess and some other member will be here momentarily. But my previous engagement, I have to appear at the House right now.

So we will be in a momentary recess. Please hang on and someone will be right back.

[Brief recess.]

Senator BINGAMAN [presiding]. Why don't we start up again. I will start up and stage a mutiny here and take over until the chairman arrives. Mr. Andrews, I gather you were partway through your statement when the hearing was interrupted. And if you would like to go ahead and complete your statement, we will then go on to the other two witnesses.

Mr. ANDREWS. Thank you very much, Senator.

I was merely trying to make the point that the usual four ways that we try to make up the shortfall difference between the stockpiles—in the 3-year assumption mandated by Congress in the law.

We usually do that by trying to cut essential—rather, civilian consumption, and I tried to make the point that certainly in chrome's case the essentiality of chrome and the pervasiveness through our society I think pretty well negates that. And besides that, I rather think we'll have a guns-and-butter policy, as we've had in the past.

The idea that we are going to try and buy from somewhere else other than the source of chromium, which happens to be southern Africa, I said would be putting our reliance and our national security on 1 percent of the world's known supply.

I don't believe we can make it up in scrap because we're going to be telling the people that they're going to use everything longer because we're going to not make them, and then we're going to tell them we want them to scrap them sooner so we can get the scrap back in the system. I just believe that doesn't work.

And the fourth way is that we're going to bring on marginal supplies in this country. In chromium's case, I think everyone would agree it would probably take you 3 to 5 years to get very marginal reserves back on stream. And as I've said previously, the stockpile is only by its own measure 1½ years supply. They don't meet.

The second point I'd like to make and make very quickly is the timing of this recommendation on the part of the administration. Some 4 years ago or so, I made a statement up here testifying regarding southern Africa—it may have been before this committee—that I saw four scenarios possibly as denying us access to the southern African supplies.

The first one would be a regional war like a Vietnam, only this time it would be in Central America or the Mideast, where they would have the capabilities of interrupting our shipping. The Vietnam war did not present that problem, and to mobilize for an operation the size of the Vietnam war in the Central American area, where the capability of interruption of supply exists, I believe this is part of what the administration had in mind when they made the Grenada invasion.

The second scenario I laid out about 4 years ago was that one day we would wake up and find how a friendly leader, albeit repugnant, was no longer there and an unfriendly leader, equally as repugnant, was in power. This happened in Cuba, this happened in Iran, this happened in Nicaragua; and who's to say it couldn't happen in southern Africa?

The third scenario I laid out is the one that I really believed would happen, and that is that, due to the emotional, religious, cultural, racial, crosscurrents and strains that we find in the situation in South Africa, the violent, emotional charge that's there, that we would have a total civilian—or civil disruption and the country would merely go in shambles.

Who would have believed that 8 years ago the bastion of the financial Mideast, Beirut, would be what it is today? Who is to say that the same thing can't happen in southern Africa and they just go out of business for a prolonged period of time?

The fourth scenario was that we, for whatever reason, would decide that we could no longer tolerate the internal policies of that country and adopt a policy of self-denial, impose sanctions.

Mr. Chairman, the curtain has gone up on two of the four scenarios. The third one I believe is a shadow standing in the wings, ready to take center stage. And just as we see what we thought could possibly be the disruptive force of this vital material, we set upon a course of dismantling our first line of defense against it, the stockpile.

Now, this recommendation—and I have said this before—I do not know of one reputable, knowledgeable, experienced metallurgy group, the American Mining Congress, AISI, the Tool and Stainless Steel Industry Committee, major corporations, mining and otherwise, who had any part in preparing this recommendation or who like what they've seen.

I do not know of the metal knowledge people on the Hill, both in the Senate and in the Congress, the staff of this very committee or Congressman Bennett's committee, who had anything to do with the preparation of these recommendations or who endorse them.

I am told by that usual unimpeachable source in the administration that the metal knowledgeable people within the Administration itself fought hard against these recommendations and lost, and now either stand silent or give obedient lip service as good team players.

Let's face it: As we say in industry, this is a proposal by the bean counters, for the bean counters. And I do not know of anybody reliable in the metals business who plays a role in it.

I think this committee is to be commended to at least give this one opportunity for those who are expert—and I don't include myself in that category—those who are expert in this field to at least express their concerns.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Andrews follows:]

STATEMENT OF
MR. E. F. ANDREWS

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

U. S. SENATE

NOVEMBER 14, 1985
WASHINGTON, D. C.

My name is E. F. Andrews. Retired. Prior to my retirement I was Vice President of a large consumer of basic critical materials in the production of steel. In that capacity my responsibility was obtaining the base metals from around the world. I spent the major portion of my business career traveling the world and keeping an eye on the worldwide critical material supply system. At the present time, I am a member of the National Strategic Materials and Minerals Program Advisory Committee and am happy to be invited to make my views known before this committee.

The Stockpile Act was first enacted in 1939, was greatly overhauled in 1946 after the experiences of World War II, and again in 1979. During much of that time, I was critical of the way the stockpile was managed; but I have been complimentary also at times. Anyone who is familiar with the facts of the middle sixties, when we were waiting on new facilities to come on stream in vanadium and molybdenum, knows that the careful cooperation among government, the producers, and the consumers prevented a disastrous condition in the marketplaces; and the stockpile managers were to be congratulated. But we also remember when the stockpile was buying at the wrong time, selling at the wrong time, breaking price increases, breaking labor strikes, and balancing the budget--all of which was disruptive, not in national interest, and should not have been permitted to happen.

For these reasons, I and others, have recommended that the stockpile be taken off the balance sheet and set-up in some sort of a government corporation or Federal Reserve Board.

We cannot examine the stockpile in a vacuum. It is a part, a very essential part, but only a part, of a much broader national materials policy. In fact, it is virtually the court of last resort when the other options open to us in a national materials policy are found to be ineffective or unavailable to us; options such as conservation, export control, recycling, research and development, substitution, etc. When all else fails, then we stockpile. The stockpile has really one purpose. That is providing the time required for us to ride out the shortterm interruption or implement such long-term and more permanent solutions as we are able to devise.

With regard to the current proposals one cannot help but say, "Here we go again." As you know the 1979 Stockpile Act says, "That the stockpile will be sufficient to meet the military, industrial and essential civilian needs for a three year conventional global military conflict as mandated by congress."

How well do these new proposals stand up to that mandate? Please understand that I know only what I have read from the White House's announcement of this program and what has been said by spokesmen from the administration that have appeared in the press. I am not privy to the numbers used by the framers of this recommendations assumptions. I will use chromium to make my points because I am more familiar with that commodity. I am sure similiar cases can and will be made for vanadium, platinum and manganese and, perhaps, cobalt and nickel as well. If I understand, the recommendation that we are considering says that we will take the chromium stockpile level down to about four and a half months and even when we add the supplemental reserve it moves out to only a little over a year and a half.

Let me examine the chromium situation. For one has to ask how can we take the stockpile to four and half months or best one and a half year and meet the demands of congress for a three year supply to meet military, industrial and essential civilian needs. We probably are saying we are going to make it up in one or all of the following four ways.

First, we could curtail civilian use. Chromium is probably the most essential and unsubstitutable metal of all. If we curtail the civilian use we impact our entire transportation system; land, sea and air, our communication system, and unless your prepared to repeal your environmental laws, we take the catalytic converters off the automobiles, stop putting scrubbers on our industrial stacks and stop building new water treatment plants in our industries. Unless we get chromium or repeal the sanitary laws, we close down every restaurant, hospital, and we stop processing food in Heinz, Campbells and others and we hire more people for the Food and Drug Administration to take care of the increased ptomaine poison cases that can be expected. We impact the machine tool industry and computers.

We go down a list of things that have become in America not luxury but essential to our life. Of course those items are not essential in those Marxist one party utopias like Ethiopia and Mozambique, but in the United States we have created the standard of living, a society that make these essential.

It is my judgement that rather than a nuclear holocaust, or a world wide war where we would have no choice but to go with hardships across the country, we will have a regional war of the Vietnam type in Central American, the Mid East or perhaps even Africa. We will have to mobilize the country to support a half a million men in combat and for a three to five year period and the administrations policy will be guns and butter. I would predict that during such a Vietnam war with a guns and butter policy the total consumption of chromium in the United States would rise substantially, not fall.

Second, we will stop buying from our major source, South Africa, and purchase from the rest of the world, seventy-five percent of our requirements of high carbon ferrochrome come from Southern Africa and the balance from other parts of the world. But this is not the point. According to the Constitution the first responsibility of government is the national security. We cannot escape the fact that close to 96 percent of the total known world supply of chromium is in Southern Africa. About three percent of the world's supply is in the iron curtain countries, such as; the Soviet Union, Albania, etc. That leaves one percent in the western world, and we are going to adopt a policy and hang our national security on turning ourselves, and perhaps the rest of the western world into a dependency upon one percent of the known world's reserves. This I do not think serves us well.

Third, we are going to increase the consumption of scrap. It always aggravates me when the governments statistics report that in chromium; for example, we only import about eighty-eight percent of our needs, and twelve or up to fourteen percent comes from scrap. This is just plain misleading because scrap is a virtual closed circle. Let's say we put ten percent of our melt in the furnace in scrap, it comes out an ingot, we crop off a percent of that ingot before it goes in to become a billet, we then crop off that and it becomes a sheet or a strip, we then crop that off and ship it to a customer who then stamps out his particular product. All of that scrap flows back, goes in the furnace, comes back out and gets cropped off again. The scrap is a closed circle. The part of the chromium in the product that goes to the useful market place is one hundred percent imported.

Can we increase the scrap? Because of the intrinsic value of the metals in stainless scrap, it has a very efficient scrap system. Remember that every producer is striving to reduce the amount of scrap he generates, not increase it. Can't you imagine our policy if on one hand we are going to say you cannot buy anymore new automobiles, you have to drive them longer. And on the other hand we say we want you to turn them in sooner so we can get the scrap. Of course, research can be done in some areas to increase the use of scrap, but the amount of increase may be minimal.

Fourth, we are going to bring on stream those marginal reserves that we have in this country. There are some reserves in the United States, that could be and have in the past produced some chromium. The problem is even if we allow them the full one and a half years, in the stockpile and the supplemental stockpile, it's going to take three to five years minimum to bring a facility of that type into the market place. The time is just not there.

We say we have a year and a half supply, do we really? Will ~~will~~ We sit back with our year and a half supply and five years to bring our mine on stream and tell our military and trading partners in Europe and Japan, shut your countries down, we only have a year and a half for ourselves. Or will we share and make do and try to keep us all going.

Beyond the above shortfalls, Mr. Chairman, the timing of this recommendation is almost beyond my comprehension. Years ago, testifying before this very committee, I believe, I suggested four possible scenarios with regard to Southern Africa and with regard to the disruption of supply from that area. The first was that we could have that Vietnam type war that I mentioned earlier in Central America or in Mid East where the enemy would (not so in Vietnam) posses the capabilities of interrupting our shipping from the Persian Gulf or the eastern coast of Southern Africa, (one of the reasons the government used for the invasion of Granada).

The second was that there would be a coup and one day we wake up and find a government formerly friendly to us regardless of how repugnant it may have been was gone, and one that was equally repugant, but now no longer friendly to us it in its place. We saw this in Iran, in Nicaragua and Cuba. Is this scenario possible? The Soviet Union has been known to lean back. encourage the destabilization and wait for the opportunity to move in.

Third, I also suggested that where we have the emotional, religious, cultural strains existing that we now have in South Africa, we could be in for a violent, civil disruption or war. Who would have said en or eight years ago, the financial bastion of the Mid East, the one safe place in the Mid East - Beirut would be what it is today. Totally out-of-business. In South Africa with the same kind of emotions, cross-currents and forces, end up in shambles. What's the western world going to do? Is the Soviet Union going to let us walk in there and take over those mines for ourselves?

The fourth potential scenario was that we would become so dissatisified with the interior policies of that country, and its resistance to change, that we would place economic sanctions and self-deny access to critical material needed.

The curtain has already gone up on two of the four of my possible scenarios of a few years ago. And a third one is a shadow standing in the wings waiting to move in when called upon to do so. At the very time the evidence is beginning to form that this may become a reality, we are in the process of dismantling our first line of defense against the impact of such denial of access. It is incomprehensible to me. Why now! It seems to me a dangerous course to set ourselves on.

I do not know of one responsible metals authority, and I mean by that corporation; American Mining Congress, American Iron and Steel Institute, Tool and Stainless Steel Industry Committe that has been involved in this process or has approved or likes what it has seen. I do not know of one of the metal experts on Capital Hill, either on the Senate or House side, your own Staff Senator and Congressman Bennett staff who was involved in the process and who likes what they have seen. I am told by the usually unimpeachable source within the administration, that the metal expertise in the administration fought hard against this recommendation and lost, and now as obedient team players either stand silent or offer lip service. What we have here, as we say in industry, is a recommendation by the bean counters for the bean counters. The recommendation that is naive to a large degree and certainly seems to be devoid of any input from the expert knowledge of the metal community. It is for this reason, Mr. Chairman, that I commend you for holding these hearings and giving mining and metal processing industries at least this brief opportunity to voice their very deep concerns. Thank you very much.

Senator BINGAMAN. Thank you very much.

Why don't we go ahead and hear the other two witnesses and then I will have a few questions for the panel. Mr. Strauss, would you go ahead.

STATEMENT OF SIMON D. STRAUSS, CONSULTANT, MINERAL ECONOMICS, ON BEHALF OF THE AMERICAN MINING CONGRESS

Mr. STRAUSS. Thank you, Mr. Chairman. Like Mr. Andrews, I won't read my full statement, which I believe will be entered in the record.

I appear on behalf of the American Mining Congress, which represents the industry. I would like to say to begin with that I have been involved with stockpiles and strategic materials for close to 60 years now, and actually began my service with the Government in March 1941, when I joined the staff of the wartime subsidiary of the Reconstruction Finance Corp., called the Metals Reserve Co. So I was on hand and took part in the effort to supply the strategic materials needed for the prosecution of World War II.

And I can tell you, sir, that that was a very difficult and very expensive procedure. It was as a consequence of that experience, which was shared by large numbers of people and of course by both the legislature and the administration, that in 1946 the Congress saw fit to enact the original Stockpiling Act. And the current proposals are really simply the latest development in a long drama that has covered almost 40 years now.

It was clear to me and to those involved in World War II that we spent more money and we lost valuable time because we did not have a stockpile at the inception of that war. We spent more money because we had to do some very extreme things to procure the materials we needed.

We were fortunate in World War II in that the logistics of the war—there's Mr. Chairman—the logistics of the war worked in our favor. All of Africa, all of Latin America, Australia, and the subcontinent of India were available to us throughout the war, so that the flow of materials from those areas was able to reach our shores.

But as Mr. Andrews has very ably pointed out, in the event that there are problems in the Near East or in Central America, such flow might well be interrupted in some future emergency. And it is from these areas that we derive most of these materials.

The other point that I would like to stress is that during World War II it was necessary to defer all the people engaged in mining the essential materials from military service. Yet those were precisely the people that had the type of skills that the Army Engineers and the Navy Seabees could well have used in constructing military bases and so forth.

It was necessary to grant priorities for all kinds of equipment to go ahead with the development of manganese and chrome resources in this country. For example, high cost and poor quality ores were treated then. The equipment that was given high priority could also have been used by the military forces. It consisted of trucks, shovels, bulldozers, scrapers, all the things that the Engineers and the Seabees required in their operations.

It was necessary to divert shipping that could have taken men and supplies to the fighting fronts in order to go to distant ports to secure the bauxite, the chrome, and the manganese and other bulk materials that had to be imported. And it was necessary to divert a large amount of our available energy for the production and processing and refining of metals, energy that could have been used for shipbuilding or production of explosives.

So I point this out, that it isn't merely having the materials available; it is also the fact that if you don't have a stockpile you're going to have to put a lot of effort, which diverts away from your military effort. The stockpile, in other words, provides manpower, provides transportation, scarce equipment and energy facilities for the use of the military in the event of a war.

Well, I could go on indefinitely. I think that many of these points have been recognized in the past by the Congress, and in fact for the first 15 years of the stockpile's existence through to 1961 they were pretty widely recognized within the administration as well as on the Hill.

But beginning in 1962 under President Kennedy, questions were raised. The idea was advanced that our stockpiles were too large, and we began a series of changes in stockpile objectives.

Attached to my statement is a tabulation of the changes in stockpile objectives for the five metals I particularly wanted to discuss—copper, lead, palladium, platinum, and zinc—that have occurred since the onset of the stockpile program. The changes have been extreme. Each time that the targets have been changed, the changes have been based on fresh assumptions as to the nature of the war, its duration, what sources would be available, and other apparently relevant considerations.

The fact is that these are all assumptions, and that we're taking out insurance, as Congressman Bennett said, in order to arrive at these targets, at safe security for the country. For all five of the materials I'm planning to discuss, at one time or another the objective has been zero.

Under the President's proposal in regard to copper, the objective is now set at 29,000 tons, which represents approximately 1 percent of a normal year's consumption in the United States.

The United States until quite recently has been more or less self-sufficient in copper supply. However, for reasons with which I'm sure both you and Senator McClure are familiar, the domestic copper industry has now vastly reduced in size. It produced 1,700,000 tons of copper in 1973 and again in 1981, but it's currently running at a rate of about a million tons. Many of the mines have been closed, are beginning to deteriorate. To rehabilitate them in the event of war would be difficult.

So here we are, we're saying that 1 percent of a normal year's consumption is an adequate provision against unforeseen contingencies that might interrupt our copper supply. No single material involved more special projects during World War II than did copper, and it was one of the three metals on which the entire allocation system of the War Production Board was based.

The sale of 29,000 tons of copper would not raise any substantial amount of money, and it's undoubtedly for that reason that the people who have proposed this program in the President's name have said, all right, we'll hold onto what we've got, but we're not going to add any.

Lead is the next item I'd like to discuss. The stockpile objectives for lead have varied between a high of 1,154,000 tons and a low of zero. The proposed program involves holding in supplementary reserve 300,000 tons of lead. We actually have on hand 600,000 tons of lead. The difference of 300,000 tons would presumably be put on the market and sold in order to achieve the objectives that the administration seeks.

The lead industry is in a shambles at present. Prices on an historical basis are at an all-time low. Several mines have been closed, including one in Senator McClure's State of Idaho, which closed just 2 years ago, a major producer. Recently, a major producer in Missouri has closed and there is talk of closing others.

The sale of 300,000 tons of lead over the next 5 years as contemplated in the President's program would guarantee that prices would remain at levels which would threaten the continued existence of those mines that for the time being seem to expect to continue to operate.

The situation with respect to zinc is even more dramatic than with respect to either lead or copper, because we've lost a larger percentage of our zinc industry. This country was for many years the world's largest producer of zinc. Today it ranks about fifth in the rank of major producers outside the Communist bloc. I'm talking now in terms of mining.

In terms of processing, only four zinc smelters continue to operate. At one time we had 14.

The stockpile objective for zinc has been as high as 1½ million tons. It too was reduced to zero. Under the proposal put forward by the administration, the stockpile would be 85,000 tons, which is roughly about 8 percent of a year's consumption of zinc.

We have on hand 378,000 tons. As a result, if the President's proposal goes through over the next 5 years almost 300,000 tons of zinc would be sold, with deeply disappointing effects on the market from the standpoint of the producers. The price of zinc has been very weak recently. It's retreated from a high of 51 cents a pound. It currently stands somewhere in the range of 33 to 35 cents.

So here is the program with respect to three materials which we have the capacity to produce in this country, but which all three of which are in a sad state at the moment.

I'd like now to talk briefly about palladium and platinum, which are in a somewhat different state. Of the world's production of these two metals, which are usually found in association, 96 percent comes either from the Soviet Union or from South Africa. All the rest of the world produces 4 percent. The United States recovers a few thousand ounces of platinum a year as a byproduct of copper refining.

One has to assume that if there were to be any kind of a military problem the chances are that our opponent would be the Soviet Union. Under those circumstances, I think it's unlikely that they would continue to supply us with either platinum or palladium.

The remaining source, the remaining source, is South Africa; 96 percent coming from those two sources. The President's proposal is that we have no stockpile of either platinum or palladium. To me this is the most shocking aspect of the entire proposal.

We have on hand 1,255,000 ounces of palladium, which is only 40 percent of the objective. It's about a year's consumption of palladium. In case you're not familiar with it, palladium is an essential in the telecommunications industry and has very important applications in the chemical industry. It's used in medical and dental—for medical and dental purposes, which are vital to people's health.

In the case of platinum, the stockpile objective is 1,310,000. We have on hand 452,000 ounces of platinum. It is proposed that we have none and that we sell the 450,000 ounces that we have on hand.

The sale would, at today's price of about $325 an ounce for platinum, net approximately $150 million. The sale of the 1,255,000 ounces of palladium would net about $125 million at today's price of $100.

It is difficult to see what the logic is of proposing to dispose of the present stockpile, let alone build it up to the present objective, of these two vital materials which, although a lot of people probably think of them in terms of decorative objects, jewelry and the like, in fact the consumption for those purposes is minimal. It is difficult to see what the logic is of proposing, as the administration has proposed, disposing of all this.

The answer that I've been given is that, well, we can recover all the platinum and palladium we need by recycling. Now, it is true that half of the use of platinum at present is for the catalytic converters which deal with the emissions from the tailpipes of your automobiles, trucks, and buses, and presumably we could scrap that.

We do not have a substitute at present for the platinum converter to deal with these emissions. We are then faced with two alternatives. Either we scrap the entire car in order to get the platinum and palladium, at a time of military crisis when presumably the production of new cars will be inhibited. Or we choose to pollute the air.

Now, the people of this country have been put to great expense over the last few years as a result of the introduction of the catalytic converter. The automobile manufacturers say that it adds $300 to $500 to the cost of each car, a cost which the consumer has to pay. We have also been told that we need to do this in order to keep our air clean.

So here we are, consumers and automobile manufacturers have been discomfited in order to achieve improvement in the quality of air and now it is said that in the event of war we don't need to worry about the quality of air, we will get the platinum that we need by scrapping the converters.

But palladium is not used in automobile converters, and exactly how we are going to increase the recycling of palladium in wartime has not been made clear to me in any of the discussions that I have heard.

So gentlemen, I feel very strongly that the platinum and palladium case is a clear indication that the objective of the new stockpile goals is not the security of this country; it is the fact that roughly a quarter of a billion dollars could be realized by disposal of these assets now held by the Government.

Thank you for your attention, and I will be happy to respond when my colleague Mr. Ary has completed his statement.

[The prepared statement of Mr. Strauss follows:]

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Statement of

AMERICAN MINING CONGRESS

by

SIMON D. STRAUSS

Chairman Emeritus, Minerals Availability Committee,
American Mining Congress
Consultant on Mineral Economics

Before the
Committee on Energy and Natural Resources
U.S. Senate
Washington, D.C.

November 14, 1985

Mr. Chairman and Members of the Committee:

My name is Simon D. Strauss. I am the retired vice chairman of ASARCO Incorporated, a major producer of non-ferrous metals and industrial minerals. I remain active in the industry as a consultant on its economic and marketing problems. I was for many years chairman of the Minerals Availability Committee of the American Mining Congress and continue to be a member of that committee. I appear on behalf of the American Mining Congress. I am happy to have the opportunity to participate once again in your Committee's consideration of natural resource problems. The thought and attention which you, Mr. Chairman, and your Committee members have given to governmental issues affecting the mining industry are deeply appreciated.

You have asked for testimony regarding the President's July 8, 1985, national defense modernization proposal and its potential impacts on the domestic mining industry.

My involvement in the problems of critical and strategic minerals goes back to World War II. I served from March 1941, until December 1945, on the staff of the Metals Reserve Company, the Reconstruction Finance Corporation subsidiary charged with procuring the metals and minerals required by the military establishment and by essential defense industries. Although I have been in private industry since 1946, I have served on various government committees concerned with mineral-related problems continuously. At present I am a member of the National Strategic Materials and Minerals Program Advisory Committee of the

Secretary of Interior and am chairman of the subcommittee dealing with stockpile issues. In testifying today obviously in no sense do I represent the Secretary of the Interior. I am speaking on behalf of the American Mining Congress.

The present stockpile of strategic and critical materials is the result of experience during World War II. In that titanic struggle huge quantities of mineral raw materials were consumed. Lacking a substantial stockpile when it entered the war, this country had to make enormous efforts to maintain the flow of imported minerals and to stimulate production from domestic mines.

These efforts included special arrangements with regard to skilled mining labor; provision of essential machinery and supplies required by the mines; assuring increased quantities of power and fuel to extract and process minerals; and priority in transporting minerals from the mines to the points where they could be used to make military and essential civilian products.

This meant that skilled miners were granted draft deferment even though their expertise and experience would have been of great value to the Army engineers and Navy Seabees in their tasks of preparing military installations. It meant that trucks, shovels, compressors, rock drills and other tools needed by the military had to be diverted to the mining industry under high priority ratings. It meant that energy that could have hastened production of explosives or ships had to be channeled to reduction plants that were refining metals. It meant that cargo vessels, desperately needed to transport men and supplies to the fighting fronts were used instead to transport bulk minerals such as bauxite, manganese and chrome.

Awareness of the ways in which these special measures had actually tended to prolong the military conflict caused government officials to establish stockpile targets for many of the most essential materials in 1944, while the war was still being fought. Those who made these plans felt that, had a substantial stockpile been in place before Pearl Harbor, the war would have been won sooner and at a far lower cost. If the committee wishes, during the question period I will be glad to provide details about some of the far-out measures taken during the war to ensure adequate supplies of minerals.

In any event, public recognition of the importance of strategic materials in wartime was such that Congress in 1946 promptly enacted the legislation that has been the basis of the present stockpile.

During the next fifteen years the extent of stockpile activity was kept confidential. Both the Truman and Eisenhower Administrations were firm supporters of the program. The Korean War brought a new though relatively short-lived crisis in strategic materials and once again the government undertook herculean efforts to expand availability of essential minerals.

Only when the Kennedy administration raised questions about the extent of stockpiling activity was the public made aware of the amount of materials held or the goals that had been set for the individual commodities. A Senate Committee, chaired by Senator Symington, held extensive hearings that brought the issue out into the open. Ever since stockpiles have been the subject of debate.

In essence, a stockpile is a form of insurance against military contingencies the timing and nature of which are not predictable. In some quarters the argument has been advanced that stockpiles are not needed, since the next war, if there is one, will probably be a nuclear one which will last a few days or weeks. This is of course an assumption. If correct, then much of the military establishment will also not be needed. But prudent leaders of a nation do not make decisions affecting national security on the premise that only one given contingency will occur.

Moreover, unlike modern military weapons which can rapidly become obsolete, stockpiles of strategic and critical minerals represent materials that retain or appreciate in value.

President Reagan's proposal of July 8 suggests drastic reductions in stockpile goals. There have been many revisions of stockpile goals during the 40 years the program has been in force. Each time changes are proposed, the public and the Congress are advised that the new targets are the result of careful evaluation of the nation's military, industrial and essential civilian needs, based on conservative assumptions that will protect the nation's security. These assumptions include estimates of the probable length of hostilities, extent of domestic productionof each material, its availability rom secure foreign sources, possibilities of substituting other commodities, and potential for recycling. Later in my testimony I will provide some specific examples and my colleague, Mr. T S Ary, who will follow me will present others.

Mr. Chairman, your awareness of the constant shifting of stockpile goals and the disruptive consequences of those shifts to domestic and foreign industry alike, not to mention their effect on national security, prompted you several years ago to introduce legislation that would require stockpile goals to be linked to the country's demonstrated degree of import dependence, with provision for exceptions when in the judgment of Administration officials there were sound reasons for deviating from the pattern.

The American Mining Congress supports and applauds your efforts to bring some stability to the stockpile program. The latest proposals by the Administration are based on unprovable assumptions and appear to have been considerably motivated by budgetary considerations.

To gain perspective on the problem, a brief recap of stockpile history is perhaps in order. When President Kennedy questioned the size of the stockpile, the aggregate value of materials held at then prevailing prices was $8 billion.

Stockpile goals were sharply reduced in 1963, materials held in excess of the new goals were declared to be surplus, and Congress was persuaded to authorize sales. Under Presidents Johnson and Nixon further cuts were made in goals and sales were continued. During this period no new material was added to the stockpile.

Following extended hearings by the Congress, the Ford Administration in 1976 announced new stockpile goals based on requirements in the event of a three-year conventional war. In 1979 Congress made this criterion a part of new stockpile legislation, the first time it had undertaken a legal mandate on this aspect of the program. In 1980 the Carter Administration reviewed the Ford targets and made only minor changes. The July 8 proposal by the present Administration is for alterations to the Carter-endorsed goals.

Since 1979 some modest acquisitions have been made by the stockpile, but the great bulk of the material in the stockpile represents purchases prior to 1963. The latest FEMA report states that the aggregate value at current prices of materials held is $9.7 billion, of which $6.8 billion represents holdings against the 1980 goals and $2.9 billion is surplus, primarily tin and silver.

Note that the present holdings have a greater value than the value held in 1963, when President Kennedy thought the stockpile was too large. In the interim, despite only minor acquisitions, sales of materials classified as surplus have amounted to more than $8 billion. Much of the material sold was of commodities which in the 1976 and 1980 goal revisions were again classified as wanted-even though prices are currently much higher than the prices at which they were sold.

These figures highlight one aspect of the stockpile that makes it different from other areas in which the government makes large expenditures. The minerals in the stockpile not only do not deteriorate, they tend over time to increase in value-reflecting inflation. Thus a stockpile that was worth $8 billion in 1963, despite sales since then of $8 billion, is now worth $9.7 billion. Of how many other government expenditures since the end of World War II can this be said?

The Administration press release of July 8 establishes stockpile goals for only nine commodities with a total current value of $827 million. These goals are stated to be the amounts "that would be required during a protracted military conflict that would not be available in sufficient quantities from domestic or reliable foreign sources." In addition, the Administration proposes to establish a supplemental reserve of some 23 commodities with a value at current market of $5.7 billion. The material surplus to the stated quantities is to be sold over a five-year period.

Time does not permit an extended review of the position of the 62 materials encompassed in the present program. Mr. Ary and I believe that by discussing a few of the major minerals it should be possible to bring into focus the problems that arise under the proposal and to illustrate the potential impact on the domestic mining industry.

I will discuss five metals-copper, lead, zinc, palladium and platinum. The first three of these have been produced in substantial amounts by domestic mines throughout this century. The last two have traditionally been imported, but there appears to be an opportunity to establish a modest domestic source.

I have prepared a tabulation, which is the last page of this statement, showing the changes that have occurred in stockpil goals for these five metals since the inception of the program in 1944 up to the changes suggested in July by the Administration. As you can see by looking at the table the changes have been frequent and on many occasions have been sweeping. For copper, lead and zinc at times the goal has been set at zero. At other times it has been in the millions of tons. Goals for platinum and palladium have also varied greatly, but it is only in this latest proposal that they have been entirely eliminated.

The domestic copper industry currently is the source of great concern to many members of Congress as well as to those engaged in the production of this versatile metal, which was civilization's first industrial material. Copper's direct military uses include ammunition, signal wire, parts for ships and aircraft, and in the electrical systems of trucks, tanks and other vehicles. During World War II and the Korean War copper, aluminum and steel were the three critical materials on which the allocation systems for war production were based. The United States until 1982 had consistently been the world's largest mine producer of copper. As recently as 1981 its production was 1.7 million tons, and imports amounted to about 10% of domestic requirements. The industry's competitive position has since eroded due to the strong dollar, heavy costs of complying with environmental regulations that are not in effect in many of the competing copper-producing nations, relatively low grades of ore, and the policy of public-sector companies in the developing world of maintaining production at effective capacity regardless of the level of demand. This had reduced copper prices, when adjusted for inflation, to the low levels that prevailed during the depression of the thirties.

As the table shows, stockpile goals for copper have fluctuated between a high of 3,500,000 tons and a low of zero. In the early sixties the stockpile actually held 1,250,000 tons of copper but all of this was sold during the sixties and early seventies. Both President Johnson and President Nixon justified sales on the grounds of controlling prices and fighting inflation. The small amount now in the stockpile is the consequence of some subsequent deliveries under a contract to expand mine production during the Vietnam War. Despite the announced goal of 1,000,000 tons under the Carter Administration recalculation of objectives, copper was given a low priority and no purchases were made when limited funds were made available to the total stockpile program. The announced supplemental reserve of 29,048 tons represents the actual amount now in the stockpile. It obviously bears no relationship to the nation's copper requirements in war or in peace since these are consistently in the range of 1.8 to 2.5 million tons annually.

Since there is no surplus copper to be sold under the present proposal, in one sense the change has no immediate impact on the domestic industry. On the other hand, if the studies made by the Ford and Carter Administrations have any validity, the stockpile could bwe a substantial purchaser of copper and this would have an impact on the domestic mining industry in that it would tend to reduce or remove the burdensome surpluses that have been depressing prices since 1982. Absent some price improvement, domestic mine production will remain far below the level of 1981. In 1984 production was 1.2 million tons, a decline of 30% since 1981. Import dependence for copper rose to 21% in 1984 and will probably increase further.

Lead's significant uses in military applications include storage batteries for all types of vehicles, but particularly submarines; nuclear shielding, and ammunition. U.S. still leads the world in lead mine production and in recent years its import dependence has been low, except for 1984 when, due to extensive strikes, substantial imports were required.

Unlike copper, the lead stockpile was never completely liquidated despite the zero objective that was in effect from 1963 until 1969. Based on the Administration proposal, about half of the present holdings would be declared surplus and presumably sold. This would further depress a market that, like copper, is suffering from prices at depression levels. A major mine in Missouri and another in Idaho have already closed and others are operating at losses, suggesting that further closings are likely.

The domestic zinc mining industry has suffered greater attrition than either copper or lead. Mine production of about 300,000 short tons annually in recent years is barely half of the level of output prevailing fifteen years ago, while the domestic smelting industry's output is only one-third of its 1969 rate. Import dependence has risen to 67%. This was a major factor in the setting of the 1980 zinc stockpile objective at 1,425,000 tons-the highest target since 1952.

Like copper and lead prices, the prices of zinc have also failed to match the onward march of inflation. Outside the United States mine production has risen thanks to better grades of ore handled, less severe impact of environmental regulations, and the weakness in the currencies of many of the mining countries relative to the dollar.

Zinc's major defense-related uses are as a coating for steel products to inhibit corrosion, as an alloy with copper in ammunition, and in die-cast parts for weapons. Fear of zinc shortages during both World War II and the Korean War sparked the launching of many expansion projects.

The July 8 Administration proposal establishes a supplemental reserve of only 85,000 tons-thus setting the stage for the disposal of almost 300,000 tons now in the stockpile.

For the twin platinum-group metals of palladium and platinum, the Administration proposal makes no provision for either a stockpile goal or retention in the supplemental reserve. Since about 95% of total world mine production of these two metals is concentrated in South Africa and the Soviet Union, this decision has suprised many observers. The Soviet Union is this country's rival and potential adversary should global conflict develop. South Africa is beset by severe political problems arising from its racial policies, with many people clamoring to apply sanctions to South African trade.

Palladium and platinum are primarily industrial materials-not, as many imagine, heavily involved in jewelry or other decorative applications. The largest uses are as a catalyst in the chemical and transportation industries or as a component in electronics and telecommunications. There are also significant applications in medicine. Technological advances of the last 30 years have greatly expanded consumption of both metals. Palladium is widely used for telecommunications. The use of platinum-based converters by the automotive industry to control air pollution accounts for almost half of platinum demand. Present stockpile holdings of 1,255,001 ounces of palladium and 452,641 ounces of platinum are equivalent to about one year's peacetime consumption of palladium and four months' consumption of platinum. At prevailing prices sales of these quantities would realize better than a quarter of a billion dollars. Proposed sales by the stockpile of silver and tin have raised protests from friendly nations. Perhaps it is cynical to observe that the Administration would not be greatly disturbed if sales of palladium and platinum caused protests by South Africa and the Soviet Union.

Currently, U.S. import dependence on these metals is 91%. The balance of 9% represents quantities recovered through recycling and a few thousand ounces obtained as a byproduct of copper mining. For several years a consortium of companies has been exploring a deposit in Montana that may develop into a producer of palladium and platinum. A decision whether to proceed may be announced by year-end. If this venture is launched, the initial plans contemplate output equivalent to about 5% of the country's requirements.

In a recent release the Department of the Interior estimated that the entire mineralized area in that part of Montana holds 225 million ounces of platinum group metals. However, the private-sector consortium's estimates of reserves are only a small fraction of this total. If the Interior Department is right, eventually this country may become a significant factor in the platinum and palladium markets. However, that is a long way down the road. Much time and heavy expenditures will be necessary to establish such an industry. Meanwhile, how wise is it to dispose of the relatively modest stockpiles of these two expensive and essential commodities? Indeed, one can imagine that if sales are undertaken of the present holdings the resulting deflationary impact on prices will discourage proceeding with the project now under review or with development of adjoining areas.

Mr. Chairman and Members of the Committee, over 40 years this government has alternately blown hot and cold on the stockpile program. Although the program was approved by Congress on the strength of in-depth experience during World War II and the Korean War, it has in fact been a destabilizing influence on the mineral industries, both at home and abroad. Purchases have encouraged expansion of mining capacity, which has then been heavily impacted by untimely disposals. Even though the legislation specifically provides that the stockpiles are for defense-related purposes only, time and time again changes in the program have been continuously undertaken for economic motives-whether related to the desire to control prices or to affect the government's budget.

The Administration's latest proposal appears to fall into this category. Even though made by the National Security Council, there is a widespread impression that the Office of Management and Budget and the Department of the Treasury played significant roles in the decision to proceed.

Constraints of time have necessarily required omission of many details in this statement. I shall be pleased to respond to any questions.

STOCKPILE OBJECTIVES FOR FIVE METALS 1944 - 1985

COPPER		LEAD		PALLADIUM		PLATINUM		ZINC	
Date	Amount Tons	Date	Amount Tons	Date	Amount Ounces	Date	Amount Ounces	Date	Amount Tons
11/20/44	1,250,000	11/20/44	1,100,000	5/16/56	475,000	11/20/44	275,000	11/20/44	1,500,000
6/22/50	1,250,000	6/ 1/50	515,000	6/30/58	330,000	11/ 2/50	590,000	7/ 6/50	1,500,000
10/26/50	2,100,000	11/ 9/50	700,000	2/16/60	340,000	8/ 2/51	790,000	12/ 7/50	1,500,000
9/ 5/52	1,100,000	12/24/53	700,000	4/ 2/64	1,300,000	9/28/54	879,750	1/ 4/51	780,000
8/31/54	1,600,000	9/28/54	1,130,000	1/ 9/73	510,000	5/16/56	235,000	7/12/51	740,000
9/28/54	3,500,000	10/26/54	1,130,000	4/12/73	328,500	11/8 /56	235,000	10/16/52	740,000
6/30/58	1,900,000	11/ 8/56	1,154,000	10/ 1/76	2,450,000	6/30/58	154,000	8/ 3/54	1,100,000
3/18/59	1,000,000	5/ 3/57	1,154,000	5/ 2/80	3,000,000	2/16/60	165,000	3/20/58	1,256,000
6/17/63	775,000	6/30/58	286,000	7/ 8/85	0*	4/ 2/64	450,000	6/30/58	178,000
3/13/64	775,000	6/17/63	0			1/ 5/67	335,000	6/17/63	0
4/12/73	0	12/ 3/69	530,000			5/13/69	555,000	12/ 3/69	560,000
10/1/76	1,299,000	4/12/73	65,100			4/12/73	167,500	4/12/73	202,700
5/ 2/80	1,000,000	10/1/76	865,000			10/ 1/76	1,314,000	6/15/76	374,830
7/8/85	29,048*	5/2/80	1,100,000			5/ 2/80	1,310,000	10/ 1/76	1,313,000
		7/8/85	300,000*			7/ 8/85	0*	5/ 2/80	1,425,000
								7/ 8/85	85,000*

AMOUNTS IN STOCKPILE ON MARCH 31, 1985

COPPER	LEAD	PALLADIUM	PLATINUM	ZINC
29,048	601,025	1,255,001	452,641	378,316

INDICATED SURPLUS AVAILABLE FOR SALE UNDER 7/8/85 PROPOSAL

COPPER	LEAD	PALLADIUM	PLATINUM	ZINC
0	301,025	1,255,001	452,041	293,316

* Proposed quantities in supplemental reserve as stated in release of July 7, 1985.

The CHAIRMAN [presiding]. Thank you.

Before calling on Mr. Ary, let me thank Senator Hecht, Senator Ford, and Senator Bingaman for chairing in my absence. The reconciliation measure is on the floor and I was necessarily there dealing with an Outer Continental Shelf oil issue, and may be called back to do some more of that. But I appreciate their willingness to take over the burden of the chairmanship during my necessary absence.

Mr. Ary.

STATEMENT OF T.S. ARY, PRESIDENT, MINERALS EXPLORATION DIVISION, KERR-McGEE CORP., ON BEHALF OF THE AMERICAN MINING CONGRESS, AND THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. ARY. Thank you. Mr. Chairman, members of the committee.

My name is T.S. Ary and I'm president of the Kerr-McGee Minerals Exploration Division. I'm chairman of the American Mining Congress Minerals Availability Committee, also a director of the National Association of Manufacturers and chairman of their Natural Resource Committee.

And as Mr. Andrews and Mr. Strauss, I'm also a member of the Strategic Materials and Minerals Program Advisory Committee to the Secretary of the Interior. And I'd like to make it clear that I'm not speaking in behalf of the Secretary or that committee, but I am going to speak to one of the recommendations which they have made forward in the public domain.

The security of the United States depends upon adequate and successful supplies of strategic and critical minerals. Many of these are imported. We do not have adequate sources available in the United States, we do not produce them, and we have no domestic ore bodies, and it's questionable if we have adequate geology in the United States to justify the costs, the expenditure of exploration to search for some of these materials.

And if you look carefully at the strategic minerals list, you'll note there are about 26 upon which we are import dependent. We're about 90 percent import dependent on half of them and about 50 percent import dependent on the balance of them. And if we were for any reason unable to obtain supplies of these minerals, our industrial base may be damaged beyond the point of repair and it could seriously affect our national security.

The stockpile is an important element in national defense readiness and particularly in relation to certain of those metals for which the United States has a high degree of import dependence. The nondefense use of the stockpile has caused damaging and unnecessary interference in the past and has led to many of the policy changes in stockpile goals and inventories.

The stockpile policy should reflect the national security aspects for this mission, the mission for which the stockpile was originally put together. And for this reason, the American Mining Congress, the National Association of Manufacturers, and the Strategic Materials and Mineral Program Advisory Committee have all recommended that the responsibility of the management of the stockpile be placed in an independent Government corporation or commission.

By placing the responsibility in an independent group, you would remove it from the bureaucracy which has been built up around it and help dampen the frequent drastic swings in stockpile objectives that clearly were not the result of strategic considerations. This would also help avoid the frequent and drastic swings in the purchases and the sales program, which have served to periodically destabilize some portions of the mineral industry.

Mr. Chairman, we support legislation which you introduced several years ago to establish stockpile objectives in relation to average imports of the commodity concerned in a specified period of time. It provides an objective standard less subject to manipulation for political or budgetary reasons, and it automatically aligns stockpile goals with changes in use and changes in applicable technology.

In order to illustrate my point about the drastic swings in the stockpile management, both the setting of the stockpile goals and objectives and the disastrous results of the sales program, I'd like to talk about the commodity tungsten. Now, tungsten is one of our wonder minerals. It is an important constituent in a wide variety of super alloys and nonferrous alloys.

Tungsten-containing super alloys are being utilized increasingly in high temperature applications and for metalworking materials for cutting edges of machine tools. During World War II, tungsten became a very important part of our industrial complex.

Because of its important strategic position, the decision was made that the U.S. Government would significantly expand domestic production and stockpile tungsten in the 1950's. This was at a time when our supply from China was disrupted because of the Korean conflict. The General Service Administration and the National Defense Stockpile management panicked during the Korean war and stockpiled a total of 94,600 metric tons of contained tungsten, which is the equivalent of about 15 to 20 years of U.S. supply or U.S. consumption.

And in an attempt to correct the situation, the GSA decided to sell off the excess tungsten, and it has done so steadily. And despite the congressional mandate in the 1979 act for the minimization of market disruption, the GSA has for all practical purposes disregarded the mandate and continued to sell.

And by its continuous sale of excess tungsten in times of depressed prices, the Federal Government contributed to the decline of the domestic industry. The net result has been the erosion of the mineral resource base of the United States to the extent that only 6 percent of the tungsten used in the United States in 1984 was supplied by domestic mines, as compared to 50 percent in 1964.

The questionable management by the stockpile managers with respect to this commodity has not only contributed to the decline of the domestic industry, but has caused us to become dependent on import materials for over 71 percent of our present consumption.

U.S. stockpile sales in 1984 accounted for approximately 16 percent of the U.S. consumption. Otherwise, the import dependence would be closer to 87 to 90 percent. In the stockpile accounting, it shows that the stockpile contains a considerable amount of non-stockpile grade material, representing about 30 percent of the total inventory. This inferior quality tungsten should have never been purchased.

I'd like to share with the committee some information on three of the commodities—chromium, manganese, and tungsten. And I've prepared a chart as an attachment which refers to some of these. And I think that Mr. Andrews has covered the tungsten situation so well that there is really no reason to go back over this, except to say that nearly every facet of our lives, as he explained, and our economy is affected by the use of chrome.

And there are some small deposits in the United States that are of poor quality and have not been economically viable when efforts were made to operate them in the past. We keep hearing from some of the administration that the Stillwater complex has got enough chrome, we don't have to worry about it; if we were cut off, we'd still have adequate supplies.

Well, to date the Stillwater complex is still a minerology curiosity. There has been no viable operation. They are still doing pilot plant work, like all other exploration people do. And to date I doubt seriously that we will be able to revive them in time of emergency in time to make it worth our while.

And there was absolutely no domestic production of metallurgical grade chrome in the United States in recent years; 96 percent of the reserves are in southern Africa, Zimbabwe, and the Soviet Union. And as Andy said, the loss of the southern African chrome would make us, the United States, import dependent upon a 1-percent plus the U.S.S.R. reserves, and I with Andy am not very thrilled to think that that's going to be a strong reliable source in the case of an emergency.

It appears to be ill advised and perhaps even dangerous to even think about reducing the stockpile at this time, especially with the unstable conditions in southern Africa. A reduction in the stockpile would have an adverse effect on our national security and our defense posture.

On manganese, manganese is used in a variety of applications ranging from alloying agents in alloys and bronzes to nonmetallurgical uses in chemicals and batteries. Its principal use, however, about 90 percent, is as an alloying and a processing agent for steel.

As is apparent from the chart, the United States is 99 percent dependent upon imports for its manganese supply. The United States has relatively small and low-grade deposits of manganese which are not applicable for use in the metallurgical industry. They are not economically competitive and it is doubtful that any domestic manganese will be developed in the United States. To date, we know of no substitute for the use of manganese in the steelmaking process.

And on cobalt, as can be determined from the chart, the United is 95 percent dependent upon imports for its cobalt. Although the demand for cobalt tonnagewise is less than that for chrome and manganese, it is still no less important in its applications.

The issues in cobalt are in many ways similar to that in chrome. A key question is the concentration of the reserves in Zaire, at this stage of the game a country that is having a lot of difficulties and remains very vulnerable to political and economic conditions. It is a country whose economy is among the least healthy in the world.

More than one-third of all of our cobalt is used in critical applications, such as aircraft engines and gas turbines, where substitution may be impossible or prohibitively expensive.

Because of the very critical importance of this metal, it's apparent that present usage levels will probably increase, and because of our import dependency it is ill advised at this time to consider the reduction of the cobalt inventory. It would not be in the best interests of our defense posture to do so.

As you can probably tell, I'm not very impressed with the recent decisions of the administration to reduce the stockpile goals, nor am I impressed with the present management of the stockpile. It appears that the stockpile is near the bottom of priorities for this administration. The administration proposal reflects 2 years of interagency studies, coordinated by the National Security Council.

Further, the administration has relied upon the advice given by the Security Council, and in my opinion it's pretty poor advice. The National Security Council advised us in our discussions that their decisions were based upon more realistic assumptions than any other studies made and were based upon the best data available.

Of course, these studies, the data, and the methods of the studies are all classified. Now, we can find no authoritative—no authorities, such as Andy has indicated, such as the people at this table, who were contacted by any of the study team.

As a matter of fact, the practical experience of any one of the three people at this table in the source of critical and strategic materials is probably greater than the person, than the individual who conducted the National Security Council study is old. [Laughter.]

We recognize that it's difficult to know what the proper makeup of the stockpile should be. But people such as Andy and Simon, people at Cabot and Union Carbide and in the business, should have been contacted and had some input.

We should also talk in terms of tons of material used and not dollars available, because some of the administration members state that the net imports of chrome, for example, fall into the range of only $100 to $200 million, and that's a very small item when you look at the gross national product. And it really isn't, because it's frightening to think what would result if we lost the defense readiness and industrial output due to the lack of having chrome available.

And it would be an absolute disaster if we could not have the stockpile material available in the time of an emergency.

Mr. Chairman, the industry is very pleased that you and your committee have initiated hearings relative to the objectives for the defense stockpile and the management of stockpile matters. We feel there's room for improvement in the stockpile management and capability to meet essential defense, industrial and civilian needs in a national emergency.

We are in hopes that this committee will get the stockpile back on the right track and that there will be a central direction of management and a commitment to restructure the stockpile to meet the stated goal. And as Sandy Trowbridge, president of the

National Association of Manufacturers, recently reported, and we agree:

> These Congressional hearings in the latest stockpile modernization proposal will serve two very useful purposes. One, to ascertain the validity of the drastic goal reductions prepared by the White House—proposed by the White House; and to once again discuss the need and justification for long-term investment in and the maintenance of the stockpile.

Mr. Chairman, we appreciate very much the opportunity to meet with you and the committee today and to discuss the operation of the stockpile. The Mining Congress, the Association of Manufacturers, and the mineral industry stand ready to be of assistance to you and your committee and your staff in this very important matter.

[The prepared statement of Mr. Ary follows:]

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Statement of

AMERICAN MINING CONGRESS

AND

NATIONAL ASSOCIATION OF MANUFACTURERS

by

T S ARY

President, Minerals Exploration Division
Kerr-McGee Corporation
Chairman, Minerals Availability Committee
American Mining Congress
Chairman, Natural Resources Committee
National Association of Manufacturers

Before the
Committee on Energy and Natural Resources
U.S. Senate
Washington, D.C.

November 14, 1985

My name is T S Ary. I am President of the Minerals Exploration Division of Kerr-McGee. I serve as the Chairman of the Minerals Availability Committee of the American Mining Congress, and I am testifying today ~~onte~~ on its behalf.

Mr. Chairman I am also Director of the National Association of Manufacturers, and Chairman of their of their Natural Resource Committee. My statement this morning is also on behalf of the National Association of Manufacturers.

The American Mining Congress is an industry association that encompasses producers of most of America's metals, coal, and industrial and agricultural minerals; manufacturers of mining and mineral processing machinery and equipment and supplies; and engineering and consulting firms and financial institutions that serve the mining industry.

The NAM is a voluntary business association of over 13,500 corporations, large and small, that are located in every state. Members range in size from the very large to over 9,000 smaller manufacturing firms, each with an employee base of less than 500. NAM member companies employ 85% of all workers in manufacturing and produce over 80% of the nation's manufactured goods. NAM is affiliated with an additional 158,000 businesses through its Associations Council and the National Industrial Council.

I would also like to state for the record that along with others making presentations today I am a member of the

National Strategic Materials and Minerals Program Advisory Commission, (commonly referred to as the "Mott Committee" after our Chairman, Bill Mott), which was appointed about one year ago by the Secretary of the Interior. The National Defense Stockpile program has been a subject of discussion in that committee at many of our gatherings. I would hasten to say, however, that today I am not speaking for or on behalf of that Committee. I do plan to discuss one of their recommendations to the Secretary of the Interior which is a part of the public domain.

Before I start discussing the details about the National Defense Stockpile and its strategic importance today, I would like to make a general statement so this Committee will more clearly understand the basis for my comments. It is necessary to review briefly the economy of the mining industry and its effect on the national security and the economic well-being of the nation.

Mineral Policy

The economic state of the mining industry has become front page news. The cover story of the December 17, 1984, issue of Business Week aptly states that the recovery of 1983-1984 largely bypassed the mining industry. In fact their headline was "The Death of Mining."

Senator Domenici in his excellent statement in the Congressional Record of January 22, 1985, pointed out that the United States is in danger of losing 75% of its copper industry, 40-50% of its iron industry, and that 90% of the U.S. potash industry, which is located in his state, is also in peril. Since that time, the situation has further deteriorated.

Certainly, those trends are of vital concern to the mining and mineral processing industries in the United States. But more importantly, they impact dangerously upon the national security and economic well-being of each citizen and corporately upon the nation.

From a national security standpoint, unless positive actions are taken by the government, the country faces a devastating minerals crisis. The United States has become increasingly dependent upon foreign sources for many strategic minerals, base metals, and industrial materials which are essential to the nation's security and its industrial base. Some of the foreign sources are from countries subject to economic, social and political instability. Many are located at the far end of vulnerable shipping lanes. These factors make the nation liable to cut-offs of supplies and to gyrations of price.

There has been no lack of mineral and material policy studies. Several have been issued within the federal government and from other sources. All of these studies start with the acknowledgement of the national significance of an adequate mineral supply and the importance of a strong domestic industry. Although most of the studies agree that a degree of foreign imports provides least-cost benefits to the consumer, at the same time, however, they point out the pitfalls of import dependency and how such dependency forfeits freedom to make political, economic and defense decisions.

Actions over the past five years with regard to addressing supply disruptions, long range material uses and needs, and the policy analysis needed to make these determinations, have been intermittent at best. It is our view that these problems cannot be addressed on an ad hoc basis.

On three significant occasions in recent memory, the U.S. Congress affirmed it to be national policy to foster private enterprise in developing a sound and economically viable domestic mining and mineral processing industry. This policy is expressed unequivocally in the Mining and Minerals Policy Act of 1970, the Materials and Mineral Policy, Research and Development Act of 1980 and again in the National Critical Materials Act of 1984.

These affirmations of policy were echoed by President Reagan in 1982 when he sent to Congress his National Materials and Mineral Plan which included this statement; "It is the Policy of this Administration to decrease America's minerals vulnerability by taking positive action that will promote our national security, help insure a healthy and vigorous economy, create American jobs and protect America's natural resources and environment."

Despite these Congressional and Presidential expressions of sound objectives and solid determination, little progress has been made to free the United States from its deteriorating position in global minrals trade and its increasing dependence on imports. The resulting vulnerability to foreign behavior is disturbing, indeed. In fact, the recent decision to revise the goals of the stockpile and to sell off much of it, in my opinion, has signaled to the world that we will become more dependent upon imports from unstable sources of supply.

Among the major causes of America's present predicament regarding minerals are the growing geographic limits placed on exploration and mining, the mounting costs of meeting rigid and costly environmental standards, and the disadvantages of trying to compete under unfair rules with foreign mineral producers.

The American Mining Congress strongly believes that it is time - indeed it is urgent - that the national policy enunciated by the U.S. Congress and the President, be implemented forcefully by means of an Executive Order issued by the President. We have urged this in the past and repeat it again now.

The fact is that the United States does not really have a true national minerals policy and until one is both formulated and implemented, no pronouncements of good intentions can serve as a substitute.

Defense Stockpile

The National Defense Stockpile is an important element in minerals availability and national defense readiness, particularly in relation to certain critical metals for which the United States has a high degree of import dependence.

A national minerals policy should reflect experience, provide for greater consistency, and adhere to the national security policy aspects of its mission for which the stockpile was authorized. For this reason, the American Mining Congress and National Association of Manufacturers have suggested that responsibility for the stockpile be placed in an independent government corporation.

Responsibility for the National Defense Stockpile should be placed in an independent government coproration to best provide for minerals availability and national defense readiness in time of need. This would help to avoid the frequent drastic swings in stockpile goals that clearly were not the result of strategic considerations. This would also help avoid the frequent and drastic swings in the purchase and sales programs which have served to periodically destablilize some portions of the mineral industry. The AMC supports legislation to establish stockpile objectives in relation to average imports of the commodity concerned during the previous 5 years. This would provide an objective standard less subject to manipulation for political or budgetary reasons, and it would automatically align stockpile goals with changes in use and applicable technology.

The American Mining Congress and National Association of Manufacturers oppose the establishment of an economic stockpile as well as uses of the National Defense Stockpile for budgetary purposes.

In order to graphically illustrate the point about the drastic swings in the stockpile management both the setting of the stockpile goals and objectives and the distastrous results of the sales program I would like to talk about tungsten.

Tungsten

Tungsten is one of the wonder minerals. The extreme hardness of tungsten alloys makes it a perfect metal working material for cutting edges of machine tools subject to intense wear or abrasion, and for metal surfaces in forming and shaping dies. The mining and petroleum industry use considerable quantities of tungsten carbide in drill bits, in the cutting edges of earth moving equipment and crushing machinery. Tungsten carbide is used widely in wear parts of transportation and electrical equipment. It is the basis of many ferroalloys. Tantalum, titanium and aluminum oxide are used with tungsten carbide to increase the life of inserts for machining applications. Tungsten wire is also used as the filament in electric lamps, as cathodes for electronic tubes and is used in significant quantities by the electrical and electronic industries.

Tungsten is an important constituent in a wide variety of super alloys and non-ferrous alloys. Tungsten contaning super alloys are being utilized increasingly in high-temperature applications for strength and oxidation resistance.

There are many other uses which could be described.

During World War II tungsten became a very important part of our industrial complex, and an important strategic mineral for defense purposes. Because of its important strategic position for defense purposes the decision was made that the U.S. government would significantly expand domestic mine production and stockpile tungsten in the 1950s. This was at a time when our supply from China was disrupted during the Korean conflict. The General Services Administration and the National Defense Stockpile managers "panicked" during the Korean War and stockpiled a total of 94,600 metric tons of contained tungsten which was the equivalent of the U.S. consumption for 15 to 20 years. In an attempt to correct the situation the GSA decided to sell off the excess tungsten. They have done so steadily from 1965. Despite the Congressional mandate in the 1979 Stockpiling Act for the minimizing of market disruption, the GSA has disregarded the mandate for all practical purposes and sold at any price.

The market disruption during 1969 and 1970 was especially noteworthy when GSA sold 24,300 metric tons in 2 years, which is equivalent to 3 1/2 years of U.S. consumption.

Even at the low prices of 1984 they sold enough to account for a 16% share of the U.S. market. By its continuous sales of excess tungsten in times of depressed prices, the federal government contributed to the decline of the domestic industry. The net result has been the erosion of the mineral resource base of the United States to the extent that only 6% of the tungsten used in the United States in 1984 was supplied by domestic mines as compared to 50% in 1964.

The irresponsible management by the stockpile managers with respect to this commodity has not only contributed to the decline of the domestic industry, but has caused us to become dependent on import material for over 71% of our present consumption. U.S. stockpile sales accounted for an approximate 16% share of the U.S. market. Otherwise, the import dependence would have been closer to 87 to 90%.

The stockpile status as of 3/31/85 shows that the material in the stockpile made up of ore, concentrate, metal powder, ferro tungsten, and carbide powder consisting of 75,441,904 lbs. of tungsten content as compared to a goal of 50,666,000 lbs. Included in the quantity just mentioned is a considerable amount of non-stockpile grade materials representing 13,231 metric tons of contained tungsten. This inferior quality should never have been purchased.

I plan to review several other commodities and I would like at this time to call your attention to the analysis of the stockpile proposals for specific strategic and critical materials. (see attachment A)

Chromium

Chrome is used in a variety of applications throughout the economy, the most essential of which are super alloys, stainless steel, and as an alloying element in tool, spring, and bearing steels. There are practically no known substitutes for chrome. Without chrome, it would be practically impossible to maintain our industrial complex as we know it today.

As an alloying element chrome raises the hardness of steel, increases its strength and oxidation resistance at elevated temperatures and increases its wear resistance. These properties make chromium alloy-steel essential in springs, bearings and tools. It is vital in the manufacture of jet aircraft, television, computers, communications systems and transportation systems. Nearly every facet of our life and economy is affected by the use of chromium.

We now have approximately 2.7 years of supply in the stockpile, but the new projections are to reduce the stockpile to approximately 1.8 years of supply. It appears to be ill advised and perhaps even dangerous to think about reducing the stockpile at this time, especially with the unstable conditions in southern Africa. A reduction in the stockpile at this time could have a very adverse effect on our national security and defense posture.

There are some very small deposits in the United States but they are of poor quality and have not been economically viable when efforts were made to operate them. To revive them during a conventional global war would be time consuming and probably not worth the effort.

Ninety-six percent of the World's known reserves of chromium are in south Africa, Zimbabwe and the Soviet Union. These are unpredictable sources of supply and involve tremendous transportation problems. All though Zimbabwe has its own deposits and produces ferrochromium, it has a difficult time marketing the material because of transportation conditions. The material has to be transported over railroads to south African ports to reach the world market.

It is really apparent from the chart that we are 82% dependent upon imports for our chromium supply. You will also note that chrome, as in the case of tungsten, contains non-stockpile grade material.

Manganese

Manganese is used in a variety of applications ranging from an agent in alloys and bronzes, to non-metallurgical uses in batteries and chemicals. Its principal use, about 90%, is as an alloying and processing agent in steel. As an alloying element, manganese prevents the formation of iron sulfide which adversely affects the properties of steel. In addition, manganese is the most cost-effective method of increasing the hardness of steel, leading to its use in certain impact resistant applications and in the high-strength low alloy steels.

As is apparent from the chart the U.S. is 99% dependent upon imports for its manganese supplies. The United States has relatively small and low- grade deposits of manganese which are not appropriate for use in the metallurgical industry. They are not economically competitive and it is doubtful that any domestic manganese will be developed in the U.S. Due to major disruptions in supplies and the Soviet Union embargo on manganese exports to the U.S., the manganese processing industry was forced to move off-shore. As a result, we have exported our processing industry. The United States has become dependent upon foreign processing of manganese ore to to meet much of its demand for ferromanganese. It is questionable if the U.S. will become a processor of manganese ore in the future.

Cobalt

As can be seen on the chart, the U.S. is 95% dependent upon imports for its cobalt. Although the demand for cobalt is less than that of chromium and manganese, it is no less important in its application. The most critical areas are as additives for superalloys, as a binder of tungsten carbide tool bits and as a constituent of some magnetic alloys. It is also desirable as an alloying element in tool steels, hard-facing alloys, and high-strength steel. Cobalt is also required in certain essential steps in the refining of petroleum and the manufacturing of chemicals.

Cobalt, along with chromium and manganese, is produced in southern Africa, the Soviet Union, and Cuba. There are some lesser amounts being produced in Finland, Morrocco, and the Phillipines. However, the main supplies to the United States are from Zambia and Zaire. There are two deposits in the United States, one at the Black Bird Mine in Idaho and the other at the Madison Mine in Missouri. Both of these operations would require government assistance in order to operate.

There are several other geological areas in which exploration is now being conducted. They are located in the copper-nickel area of the Duluth-Gabbro complex in Minnesota and the cobalt-nickel laterites in northern California. They are economically unattractive. These deposits would require increases of over 50% in the prices of nickel and copper and 100% increase in the price for cobalt before private enterprise would consider operating them.

As you can tell from the chart, at the present time we have approximately 2.48 years' supply of cobalt in the stockpile, and it is proposed that this will be reduced to slightly over 2 years of supply.

Because of the very critical importance of this metal in cutting tools, mine tools, magnetics, oil production, jet engines, and every other phase of the military hardware, including computers, it is apparent that present usage levels will increase. Because of our import dependency, it is ill-advised to consider the reduction of the cobalt inventory at this time. It would not be in the best interest of our defense posture to do so.

As you can well tell I am not very impressed with the rcent decision of the Administration to reduce the stockpile goals, nor am I impressed with the present management of the stockpile.

Purpose of the Stockpile

As has been stated earlier, the purpose of the National Defense Stockpile, is to provide strategic and critical materials that would be needed to supply and sustain the military, industrial and essential civilian needs in the event of a war or a national emergency. The stockpile is composed of materials that are not found or produced in the U.S. in sufficient quantities to meet the nation's needs in an emergency. Materials in the stockpile would be used when foreign supplies were disrupted during a national emergency.

Mr. Chairman, industry is very pleased that you and your Committee initiated hearings relative to the goals for the defense stockpile and its management. We feel there is room for improvement in stockpile management and capability to meet essential defense, industrial and civilian needs during a national emergency. We hope this Committee will get the stockpile back on the right track and that there will be a central direction of management and a commitment to restructure the stockpile to meet the stated goals.

We would like to see the stockpile be more than just a stockpile of strategic and critical ores and minerals. We would like to see the stockpile take advantage of the present timing and convert much of the ore into a more usable product so the various components of power, labor and R & D can be utilized for conversion of the ore now, rather than wait until an emergency exists. At that time there will be a shortage of these items.

We also feel that consideration should be given for the purchase of higher valued material for the stockpile. This would result in a reduction of the overall costs for materials due to the high transportation costs of ore and later high conversion costs during a time of emergency.

This subject has been very close and dear to the hearts of many of us. As members of the National Strategic Materials and Minerals Program Advisory Commission and of Mr. Strauss' Subcommittee on National Security-Stockpile and Defense Production Act, we spent long hours in developing a recommendation on the stockpile. Upon the presentation of that recommendation the Committee voted unanimously to forward the recommendationto the Secretary of Interior.

We recommended the National Defense Stockpile program be administered by a government corporation having no other responsibilities than to secure and to maintain an adequate supply of strategic and critical materials for defense and essential civilian purposes. We recommended that these purposes not include the conduct of stockpile commodity transactions for economic reasons. The function of the government corporation would only be the administration of the stockpile. Procurement goals for commodities in the stockpile would continue to be established by government agencies responsible for the national security in cooperation with the managers of the corporation. We further recommended that during the transition to the new stockpile management, there would be no deferring of stockpile transactions duly arrived at through the established annual materials plan.

By making this recommendation, the Committee tried to keep the stockpile program from being entangled in the annual budgetary process. They recognized the program will continue to be subject to Congressional oversite. But that is not the problem. The problem is that the assets of the stockpile are just too tempting and appear to be readily available for budgetary purposes.

AMC and NAM are of the opinion that a corporation of this type could enter into innovative financial options which are not available to government agencies and could operate to make stockpile transactions possible under the most favorable market conditions. We recommend the expanded use of barter in the stockpile transactions. Through a corporation there would be no turf fight between the various agencies controlling the surplus materials which could be used for barter to obtain critical materials for the stockpile.

We feel that a corporation would operate in a more business-like manner, free of much of the bureaucratic procedures that delay decisions and tend to deprive the government of the opportunity to buy or sell at maximum advantage. Material markets are volatile and sensitive to economic conditions; any delay in decision-making can be very expensive. Furthermore, such a corporation would be able to attract experienced and highly qualified negotiators and managers who may not be available under the constraints of the civil service employment system.

A corporation of this type could also consult with knowledgable individuals involved in the use and production of critical materials. In the recent decision to change the goals of the stockpile, I know of no one in industry who was consulted to these new goals. This is certainly a case of "sticking your head in the sand" and forgetting about those who are on the cutting edge of the new technology and understand the demands for such critical materials. This type of corporation would be free to contact industry and knowledgable individuals and be able to share any information gained from the contacts with government agencies without compromising the agencies or their objectives.

Mr. Chairman, we appreciate very much the opportunity to meet with you and your Committee to discuss the operation of the National Defense Stockpile. The American Mining Congress, the National Association of Manufacturers and the mineral industry stand ready to be of assistance to you, your Committee or your staff in this very important matter.

Attachment A

ANALYSIS OF STOCK PILE PROPOSALS
FOR CRITICAL AND STRATEGIC MATERIALS

	Tungsten*	Chrome**	Manganese***	Cobalt****
U.S. Import Dependent/1984	71% (1)	82%	99%	95%
Proposed Stockpile Goal	26.8	1595	3506	42.7
Stockpile Inventory	26.7	1270	3553 (3)	23.1
1984 Consumption	8.8	466(2)	1644	9.3
Stockpile Inventory in	3.0yrs	2.7 yrs.	2.16 yrs.	2.48 yrs.
in relation to consumption				
Total Stockpile Holdings	39.9	1386	4530(3)	23.1
a. stockpile grade	26.7	1270	3553(3)	23.1
b. non-stockpile grade	13.2	116(3)	977(3)	-

*Metric Tons of tungsten contained
**Thousands of short tons chrome contained
***Approximate thousands of short tons of ore @ 45% manganese
****Short tons of cobalt contained
(1) without GSA sales this import dependence would have been 87-90%
(2) calculated as total demand for chrome
(3) estimate

Note - It is difficult to compare the various categories. Many conversions are required to construct such a chart due to the different methods of reporting production, consumption and imports.

The CHAIRMAN. Thank you very much, Mr. Ary.

Senator Bingaman.

Senator BINGAMAN. Thank you very much, Mr. Chairman.

I notice this chart that Mr. Strauss has attached to his testimony here. It does, as you indicate, reflect a wide fluctuation in the goals that we have for our stockpile in these areas. I guess the Congressman spoke earlier and indicated that he thought that the Congress should step in and try to set these goals so that there is a little more stability in what we were aiming at, instead of having it done administratively, depending upon what the particular administration has in mind.

What are your reactions to that?

Mr. STRAUSS. Well, I feel very strongly, Senator, in favor of the type of legislation which your Chairman, Senator McClure, introduced a number of years ago, that the best measure of what the stockpile should be is the proven facts of import dependence on these materials.

Senator McClure introduced a bill, which in my opinion is still valid, establishing a formula which could be applied and would be periodically adjusted based on changing trends in industry. For example, I had mentioned the shutting down of a large part of our zinc industry. As a result, under the formula contemplated in Senator McClure's bill, the zinc objective would automatically over the years have reflected the fact that we were no longer producing as much zinc as we had and that we would become more import dependent.

The structure of our industrial society is so complex that to try to pick and choose which is the more important, which is the less important, in my opinion introduces too many judgmental factors into arriving at stockpile goals. I think that there has to be allowance, and the McClure bill made allowance, for exceptions from the formula which the bill set forth.

But those exceptions would be made by the administrative agency, which would be required to give the rationale to the Congress as to why they departed from the formula. I strongly urge that some kind of legislation along these lines be given very serious consideration by the Congress, because if we don't the history, as you have just said, of the last 40 years in regard to stockpile goals shows that every time some new group studies the problem they'll come up with a different set of conclusions.

And the result of the buying and selling of materials for the stockpile and from the stockpile has been disruptive to the mining industry, has been expensive to the taxpayer, and as Congressman Bennett very aptly said in his testimony earlier today, the fact is that the assets in the stockpile are very different from other things on which the Government spends money, because these are commodities that will not go out of style. They will always be useful, and furthermore they do not deteriorate with age.

So the Government actually has an asset in the stockpile, and to dispose of the stockpile as proposed by the administration is a little bit similar to somebody who has a life insurance policy cashing in on his life insurance policy the cash value simply to meet a current emergency situation, and thereby depriving his family of the protection which the life insurance policy represents.

Senator BINGAMAN. Let me just ask a question on the copper thing if I could, Mr. Chairman. Then I'll quit. Mr. Strauss, as I understand from your chart here on copper, that our goal in 1954 was 3.5 million tons. Now under this new administration policy the goal is 29,000 tons.

It strikes me that it's almost a joke to say that we should have 3½ days of stockpile in copper. Either we should have a stockpile of copper or we shouldn't, but I shouldn't think that 3½ days would fit the bill.

I would just be interested in knowing what your thoughts are. That is a fairly wide fluctuation in policy.

Mr. STRAUSS. Well, as I've said, our copper industry unfortunately is not as vigorous as it has been, due to a variety of reasons. One of the factors perhaps that has contributed to the undermining of the strength of the domestic copper industry was the previous policy in selling the 1.25 million tons of copper that we did have at one time in the stockpile, because that was undertaken as a method of price control.

And it really was very disadvantageous for the domestic producers at a time when, for example in the Nixon administration, they were subject to price control and the rest of the world was not subject to price control. So that our competitors overseas were able to take advantage of very high prices, whereas the domestic industry was not able to do that. That was a contributing factor to the weakening of their financial position.

The 29,000 tons is a sort of a joke. All it is is it represents the amount they've got on hand. What they say is, we're not going to sell what we've got, but we're not going to buy any more. That is really what it says. No person could seriously say that for a major commodity like copper an objective of 29,000 tons is the correct figure.

As a matter of fact, it's not even in what are called the stockpile goals. It's what's called the supplemental reserve. And if you've read the President's statement about the supplemental reserve, there's all kinds of ambivalent language about the supplemental reserve.

If I can take just a minute longer, and this is not directly responsive to your question, in regard to the disposal of the palladium and the platinum, is it possible that going through the minds of the people who said we ought to have the zero objective for palladium and platinum, is the fact that during the lifetime of the stockpile when disposal of surplus as has been proposed, in many cases overseas governments, foreign governments, have taken objection, for instance, to sale of tin? Malaysia, Bolivia, Indonesia were very upset about that. The sale of silver; Mexico and Peru raised questions about our disposing of silver.

Who will be affected by our selling of platinum and palladium? The Soviet Union and South Africa. From the standpoint of the administration, there's no political heat that those two countries can apply to us, and therefore they're quite prepared to disregard that.

This is somewhat cynical, but in my opinion it is the explanation of why the objectives were set at zero in the face of the fact that these are essential materials for which we have no current production. There is a possibility of some domestic production, but at best it would take care of 5 percent of our requirements.

Senator BINGAMAN. You don't expect Mr. Gorbachev to raise this issue next week when he visits with the President?

Mr. STRAUSS. Well, it will not have been effected by next week, so I suspect he won't raise it.

Senator BINGAMAN. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you.

That last point that you made, Simon. I am puzzled, as you are, with what the supplemental reserve is intended to be, because it seems to me that there are perhaps two explanations, either of which is equally illogical or equally logical.

One is that we've got it, it might be useful to us, so let's keep it, which would seem to me to be outside the real stockpile objective statement because it's supposed to be, we need it, we ought to have it, not just it's convenient. Or on the other side, it's one that is intended to be a step toward disposal, but not to confess that at this time.

I don't know how to judge between the two, but if I look at things like the copper supplemental reserve figure I can come to no other conclusion, because it's either valuable to us to have a reserve of copper or it isn't. And if it is, 29,000 tons is nothing; and if it isn't, then why keep it?

Mr. STRAUSS. Well, Mr. Chairman, I agree entirely with what you said, because in fact if you read the President's release, which I thought I had here but I don't, it refers to the supplemental reserve as being material which we now have on hand. There is no proposal for buying anything for the supplemental reserve.

The CHAIRMAN. That's correct, but don't sell anything either.

Mr. STRAUSS. But we won't sell it for the time being, and so, as you say, I think on the one hand they say we don't want to create too much of an uproar, so we're only going to sell the stuff that's excess to the supplemental reserve now and we'll take another look at the supplemental reserve down the road.

The CHAIRMAN. That's the interpretation I have followed, because it's the one that makes more sense than the other.

Mr. STRAUSS. Right.

Mr. ARY. It's a matter of having a savings account to draw on later on.

Mr. STRAUSS. Yes.

Mr. ARY. Because the whole thing appears to be a sleight of hand, creative accounting and budgeting.

Mr. ANDREWS. I believe also, Mr. Chairman, that the initial drafts, which I'm told from that usual unimpeachable source inside the administration, was that they had no reason to have a supplemental. They were coming out with their goals, and the hue and cry began to arise and that's when they came out with the supplemental.

The CHAIRMAN. Mr. Strauss, you referred, again, to the announced stockpile goal for copper under the Carter administration as being 1 million tons. Wasn't that goal established by the Ford administration and endorsed by the Carter administration?

Mr. STRAUSS. Yes. Yes, it was. In the table I show on October 1, 1976, that the Ford administration had the stockpile goal of

1,299,000 tons. It was reduced by the Carter administration to 1 million tons.

The **Chairman**. I guess I have to get back to asking a fundamental question about what a stockpile is for. If I understand the statutory goals and I hope the rationale and whatever logic there is for one, it is that in time of emergency we need something to protect the national security.

You have to start from some base of determining what that emergency is and what the objective is. Of course, the study is classified and we cannot discuss now the basis of that, of the assumptions that are made. So let's, without going into classified material, get into some hypotheticals or some comparisons.

Mr. Andrews, you mentioned something in your testimony that strikes me, that regardless of the assumptions consumptions rise in time of war. If it is an all-out war, global in context, toward total victory or total defeat, the kind of holocaust that all of us pray we never confront but nevertheless must try to prepare for, certainly the military requirements would escalate minerals and metals demands.

You didn't make that point. I think everybody understands that point. But you did make the point that in the event that it is not an all-out conflict, that if it is a regional conflict—we have seen some examples of less than total conflict in the last 40 years, in which the political responses in this country called for both domestic consumption and military consumption or, as is popularly known, guns and butter.

Then too, total consumption rises; is that correct?

Mr. **Andrews**. I think so. I think it would. Certainly in chromium, which I used as my example, it would. It was true during the Korean war. It was true during the Vietnam war.

The **Chairman**. We have looked at two limited conflicts, Korea and Vietnam.

Mr. **Andrews**. That's right.

The **Chairman**. And in both instances, one, Korea, occurring shortly after World War II we were not really totally into a civilian economy, but nevertheless consumption rose during that period of time, too.

Mr. **Andrews**. And I tried to point out, Mr. Chairman, that in those two conflicts, Korea and Vietnam, the enemy did not have the capability of interrupting our supply lines. The potential for that type of conflict I think is the Mideast or Central America in the future, where the potential to interrupt that supply line does exist in very real terms.

The **Chairman**. Mr. Ary.

Mr. **Ary**. The Korean incident, of course, was the basic problem on the tungsten question. Everybody got excited and panicked into going overboard. If they'd have had an adequate stockpile, there would not have been this problem.

And it seems to me, as I said, it's difficult to tell what ought to go in the stockpile. But there certainly ought to be a dialog with the people that are involved in it, because the real cutting edge of the R&D that determines what materials are going to be needed is not the Department of Defense or the Department of the Interior, but it's the people who are working in these metals.

And the Security Council to the best of our knowledge have not talked to any of those people during their study. And it would seem to me like they at least ought to get a hold of somebody who's doing the R&D that's going to force the demand for materials that we don't know at this point in time.

The **Chairman**. Well, let's go back in history again, since we don't know the assumptions or can't discuss the assumptions that may or may not have been used in this study. If we look at history, if we look at the conflict of World War II or Vietnam or Korea, we can at least look at some things that did happen.

One is that certainly in World War II there was an all-out conflict. We abandoned other objectives. We subjected everything to the needs of national defense. We diverted and allocated materials, had wage and price controls. We had a total all-out national effort.

Under those circumstances we were able in some instances to increase the output of minerals in a very short period of time. But even there, there was a time lag.

Mr. **Strauss**. And it was at great expense, and it diverted in many cases manpower, machinery, and transport away from the military. So that the military in my judgment might have actually been successful at an earlier date if it hadn't been that shipping space, trucks, people, had to be used to increase the production of minerals.

The **Chairman**. And other economic assets, such as energy and manpower.

Mr. **Strauss**. Right.

The **Chairman**. All of the rest of things that had to be diverted into opening mines and building the roads and expanding the smelters and refinery capacity and the production facilities.

Mr. **Strauss**. At that point in time we were still a strong producing industry. And today if that same emergency happened, we're in a much more difficult position, because for just lack of a mineral policy our industry is very weak. And with the stockpile, as Simon indicated, we should not stockpile ores and minerals like we did in the past. We're going to have to stockpile a higher value material and get those costs behind us, so they're in a condition that we can utilize in our business.

Because through the breakdown of our industry, we've exported a lot of our capability of converting to ferrochrome. And so as a result, we're not going to have that readily available, as we did during World War II.

The **Chairman**. You correctly assumed or anticipated where I was going with my question, because there are two lessons to learn from that. One of the reasons—certainly there are lots of reasons why the ferrochrome industry has been diminished in this country and built up overseas.

But one of the points you can look to very easily is the time we embargoed chrome from Rhodesia and the ferrochrome industry had to move offshore because it couldn't get chrome. Some of the chrome suppliers said: We'll give you chrome, but it will be in ferrochrome, it won't be chrome. And they had leverage to change the world's economy and used it, and we've never recovered from that.

Now, there might be other reasons and that may have only exacerbated a trend that was going on for other reasons.

The second point I wish to make on the basis of an historical example, again, is that when World War II broke out we had a miracle of production in this country. If historians would carefully look—and many have, and the public perhaps forgets these lessons—the conversion of a civilian economy into a war economy was accomplished in a way that staggers the imagination today.

To move from the production of trucks to tanks, from automobiles to aircraft, from toasters to artillery shells, all of that was really a great tribute to the productive capacity of this country and to the people who run the industries in this country and direct them, in the time that they did and the degree that it was done.

And I know, Simon, you were a part of that, and I intentionally commend you and others who were involved in it for having been able to do that.

But it was based upon the fact that we had industries in being that could be converted, was it not?

Mr. **Strauss**. Certainly. One of the most important factors, for example, was the machine tool industry, which was a prosperous industry at the time and could help us tool up for this production. Our machine tool industry is in the same state of disrepair as many of our other basic industries.

Forging capacity was freely available. Now it's all moved offshore. So we are in that position.

And the other thing, Mr. Chairman, that I keep thinking about is how different the geography of the next conflict will be compared with what it was in World War II. We were very fortunate in World War II that Latin America, Africa, Australia, India, and even to a certain extent Russia itself were availble to us as sources of raw materials.

Many of those sources are going to be highly questionable, and the ones that are on our side, Australia for example, the Russians are going to have a much easier job of keeping their submarines afloat than the Germans did during World War II, in the Pacific Ocean threatening the lifelines to Australia.

The **Chairman**. If industrial capacity, exist and is necessary for rapid conversion—it's easier then to convert an industry than it is to create one. Therefore, we must be concerned about the adverse effects of stockpile disposals upon the remaining industry that we have.

Has there ever been a time when there's been large-scale stockpile disposals that hasn't caused disruption in the markets?

Mr. **Andrews**. No.

Mr. **Strauss**. Never.

Mr. **Ary**. No.

A good example is, Simon and I, the first time I met Simon he came to my defense on an argument about the international tin commodity agreement, and we have just recently read of the complete failure of the London Metal Exchange because of the tin problem.

And there is no way that a government or a group of governments have been successful in trying to manipulate the price or the sale or the control of a commodity. With the large-scale sale of the stockpile materials, there is just no way that this can be done soundly or adequately.

Mr. **Andrews**. Mr. Chairman, it's more subtle than that. Take the 10-year disposal of cobalt, which really didn't disrupt the cobalt market per se. But what we were doing was pulling almost 40 percent of our total consumption out of the stockpile.

When the crisis, the war in southern Zaire occurred, and we then saw stock coming out of stockpile and said, we want 40 percent more than we've been buying for the last 10 years, they said, no, that's not your allocation.

The **Chairman**. And the price went up then tenfold.

Mr. **Andrews**. Well, yes, the price went up, too. They said, your allocation has been for 10 years at this level. Now you want to increase it, you see.

The **Chairman**. If we look at past conflicts again, whether it was the limited conflict of Korea or the all-out conflict of World War II or the much more limited conflict of Vietnam, we saw in every instance that those conflicts lasted for some period of time, 3 years or more, in each instance more than 3 years.

Why would we assume now that we can anticipate something other than that? And if that is the basis of our assumptions on the stockpile requirements, Mr. Strauss, you point to the fact that we consume today, in today's economy, with no increase because of conflict, 2.2 million tons of copper per year and only produce 1 million tons domestically.

Is it unreasonable, if we know those to be the facts and we make the assumption that a war will last for some period of years, that a 1 million ton stockpile objective is an unreasonably large objective?

Mr. **Strauss**. No, sir, it's not, particularly not in the light of the not collapse, but the serious shrinkage that has occurred in the size of the domestic mining industry. You have lost roughly one-third of the domestic mining industry already and more may go down the tubes unless the economic situation changes.

The **Chairman**. Mr. Ary, you referred to two deposits of cobalt in the United States that would require subsidies in order to operate. One of these deposits, as you know, is in the State of Idaho, and because it is in Idaho I may be accused of being parochial. I would be just as concerned if it were in Oklahoma or New York State.

Mr. **Ary**. Mr. Chairman, I want to assure you I share your concern about that. I follow the cobalt issue. It's purely coincidental that it happens to be in Idaho.

The **Chairman**. I appreciate that, although I suspect there will be some, in spite of that, who assume the other to be true with respect to me.

But as you know, the word "subsidy" as it applies to the domestic mining industry is considered blasphemous. A subsidy for any industry is blasphemous. And yet, when it applies to foreign competitors it's referred to as foreign assistance and is justified on the basis of diversifying our sources of supply or aiding the economies of some other country.

If the same degree of assistance were applied to the cobalt industry in the United States, as we apply to the cobalt industry elsewhere, would that be sufficient to make it a viable industry in this country?

Mr. **Ary**. Yes, I think that we all are concerned that we're not competing on an equal basis in our mineral field, and that there are many so-called subsidies or grants or methods in which the foreigners are competing with us and we with them.

And some people say we're not on a level playing field. But if the same degree of assistance were given, I still feel that the cobalt in the United States is still going to be higher cost than it is from overseas operations. However, we will have it here.

Now, it's not something, though, that can be turned off on and on like a water faucet. If we're going to have a cobalt industry in the United States, then we're going to have to go to something like the Defense Production Act and to establish an operating mine and have it ready to go. Maybe we might not operate it until the emergency comes, but you just can't wait until the emergency gets here. We're talking about 5 to 7 to 12 years to get an operation into production if we know where the deposit is today.

The CHAIRMAN. I suppose in wartime you can cut some of that time, as we did in World War II.

Mr. ARY. You're talking about 4 years, the environmental permitting, time.

The CHAIRMAN. Well, I don't suppose that the Russians will file for an EPA clearance before dropping a bomb on us somewhere.

Mr. ARY. No, I don't think we'll have time for environmental impact statements.

The CHAIRMAN. I might just note for the record at this point that the cobalt issue, again like chrome, while the official statistic is 95 percent dependence upon imports, it's really 100 percent because the other 5 percent is from recycled scrap.

Mr. ARY. That's true with chrome, manganese, and cobalt.

The CHAIRMAN. Gentlemen, I want to thank you for your appearance and your testimony. Mr. Ary, you talked about the absence of a minerals policy in this country and that is a matter that is of longstanding concern to me as well.

What would you or the American Mining Congress have in mind as the elements of a minerals policy if we were to develop one?

Mr. ARY. Senator, we've tried. We have talked, we have testified, we have done everything we can about this matter. I don't know how many agencies or bureaucracies are involved in making a decision about our mineral policy, but at one time if I remember I counted about 76 or 78.

We really thought that in 1970, when Gordon Allen had the Mineral Policy Act, we thought we were really in hog heaven, because it specifically stated what it wanted in a very simple way. And then, as Jack Schmidt said in 1980, it was too simple; we had to go for another act to say, OK, we need a policy. Then in 1984 we came up with another policy, and that policy mandated the Council.

What we really need is a high-level council, which I understand has now been appointed. There's no chairman. I don't know of any funds that have been appropriated to run it. But we need a high-level council, a one-stop service, so to speak, so that if you have a problem in the minerals side you can go somewhere and get something done.

Right now I have to go to the Coast Guard and to the Corps of Engineers to do something out in the gulf. I never dreamed that the Corps of Engineers would have any control over what I did in the gulf. I don't know who all I have to go to to do things in some States. It's just a matter of trial and error.

But to get a coal permit, we've rolled out a 14-foot flow sheet of permits and people you have to see. It would be kind of nice to go to one place. And we're in hopes, and we're staking a lot on it, that this Critical Materials Council is going to do great things. I hope it does. But I do think that we need a central focus.

The CHAIRMAN. I think we need a central focus, and I think we also need, as we do in some other areas, to recognize the importance of the security of the country. It isn't just a question of whether you gentlemen have business or whether you make profits or whether your investors are handled well or whether the unions have jobs for their membership. It's a question of whether or not this country has the capacity to compete in a world that is filled with more conflict than the peaceful scenarios of economic theoretists.

Mr. ARY. Without the mineral industry, we're not going to have the ability to compete.

The CHAIRMAN. Without a domestic minerals industry, we cannot compete. Without a domestic steel industry, we'll not necessarily be able to compete. Without a domestic shipbuilding industry, we may not be able to compete. Without a domestic aluminum industry and a domestic aircraft industry, we may not be able to compete.

And I guess maybe, as I look at the stockpile goals—and I don't mean to imply any leak of classified information; I specifically abjure that—but there's only one rational explanation for the stockpile goals that we now see, and that's the 2-week war scenario, where it really doesn't matter. You use up what you've got and by that time it's over.

Well, that can be a self-fulfilling prophecy.

Mr. ARY. Well, as we said, if we signal to the rest of the world that we're going to depend upon them for our natural resources, we certainly encourage somebody to come and take us on real fast.

The CHAIRMAN. Thank you, gentlemen, very much for your testimony. There will be some further questions submitted for response in writing, but I do appreciate your willingness to participate.

Chic, did you have any questions?

Senator HECHT. No.

The CHAIRMAN. We'll next hear from Mr. Paul Roedel and Mr. Martin Powers. Would you gentlemen come forward, please.

Senator Garn has asked that a statement by him be inserted in the record at this point with respect to beryllium. That statement will be made a part of the record at this point.

[The prepared statement of Senator Garn follows:]

STATEMENT BY SENATOR JAKE GARN ON BERYLLIUM

NOVEMBER 14, 1985

Mr. Chairman, I appreciate this opportunity to express my concerns over an Administration policy which potentially could harm the very National Security interests President Reagan has fought so hard to protect.

Unfortunately, the Administration created a problem for itself when it announced on July 8, 1985 a "modernization of the National Defense Stockpile of strategic materials." Instead of looking at each mineral and assessing its importance to our National Defense capability, the policy ended up being a sloppy broad-brush attempt to scale back and in some cases stop further acquisitions to the stockpile.

In the case of beryllium, somebody downtown overlooked the fact that there is only one source of this material in the entire free world. Beryllium is not a readily available substance. The issue here is not the quantity of the mineral in the stockpile, but the quantity of usable mineral material in the stockpile that is important.

When the National Security Council imposed a moratorium on the acquisition of beryllium, it halted a very orderly process of building up supplies of this critically important substance.

One of the key elements of the strategic stockpile is to ensure that sufficient supplies will be available to meet the military, industrial, and essential civilian needs for a three-year global military conflict. The existing stockpile falls far short of that objective. When the current contract expires at the end of 1985, the stockpile will contain 289 tons of beryllium. However, only sixty tons of it is usable without further upgrading and conversion.

My point is that somebody is playing a very high risk, phony numbers game. Either that or they simply do not understand that 229 out of 289 tons of beryllium listed as part of the stockpile are not available and can not be available for immediate use. This leaves 60 tons as the real amount of beryllium in the U.S. reserve.

Mr. Chairman, given this reality, I would hope that action can soon be taken by the Administration to recognize that a mistake has been made and that it will instruct GSA to immediately resume purchases of this material. Failure to do so, could be a very serious blow to the national security of this country.

Again, I thank the Chairman for his willingness to address this critical issue.

The CHAIRMAN. Mr. Roedel.

STATEMENT OF PAUL R. ROEDEL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, CARPENTER TECHNOLOGY CORP., ACCOMPANIED BY RALPH C. LEINBACH, JR., SENIOR VICE PRESIDENT, TECHNOLOGY, ENGINEERING AND PURCHASING, CARPENTER TECHNOLOGY CORP., ON BEHALF OF THE SPECIALTY STEEL INDUSTRY OF THE UNITED STATES

Mr. ROEDEL. Thank you, Mr. Chairman.

My name is Paul Roedel. I am president and chief executive officer of Carpenter Technology Corp., a producer of specialty steels headquartered in Reading, PA.

With me today is Ralph Leinbach, a senior vice president of our company who has the responsibility for the technical, engineering, and purchasing functions in our company. That includes our research and development, as well as all of the buying of all of our critical raw materials.

We are appearing here today on behalf of the Specialty Steel Industry of the United States, a trade association representing American specialty steel producers, and I am the chairman of that organization's advisory committee. We appreciate the opportunity to testify. We have submitted a statement.

The CHAIRMAN. It will be made a part of the record in full.

Mr. ROEDEL. Thank you, Mr. Chairman. I'll go through and highlight that statement, if you please.

Certainly we think that the stockpile not only is critical to success in actual warfare; it also influences, we think, our Nation's vulnerability to economic warfare. And I'll focus on two materials in the stockpile of critical concern to our specialty industry, chromium and cobalt. We'll also touch on the mineral elements of colombium and manganese.

We think the President's July 8 announcement can only be described as a mixed bag with respect to the materials we're concerned about. From the information that's publicly available to us, it seems as though there is about a 1 year's supply.

And I know Mr. Andrews and I are having a little difficulty getting the numbers squared away here as we look at chromium and chromium contained in consumption. But it appears like there's a 1 year's supply, either in the stockpile or in the supplemental reserve, for the minerals that we're talking about. Actually, it looks like the chromium supply included in both the stockpile goal and the supplemental reserve could be close to a 3-year supply.

Nevertheless, aspects of the President's stockpile proposal or the manner in which it was formulated are troubling to us. First is the status of the supplemental reserve as part of the stockpile is important in evaluating this whole proposal.

It's of particular importance for our key minerals and materials in specialty steel. The inclusion or disposal of the supplemental reserve from the stockpile would drastically—the exclusion, I meant to say, or disposal would drastically reduce the stocks of our material. Supplies of chromium would last no more than 1 year, while no reserves of colombium or manganese would be available.

From our perspective, if a material is critical to national security—and that should be as determined—then it should be placed wholly within the stockpile. If the President deems a material not critical to the national security, it should be so stated and it should be excluded from the stockpile, or at least give us a good opportunity to debate whether or not the material is indeed strategic.

We urge the clarification of that issue and the clear inclusion of the supplemental reserve into the stockpile goals.

Second, we're concerned about the quality and the form of the materials in the stockpile. We understand that the cobalt material presently in the stockpile may not be of sufficient quality for aerospace applications. Additionally, the form determines the potential applications and flexibility of the material in the stockpile. Chromium ore cannot be used as a practical matter in steelmaking today, with today's processing equipment. It first must be reduced into an iron-chromium alloy.

If the form of chromium in the stockpile is solely ore, the material would be forced to undergo that intermediate step before possible use in steelmaking. There is no indication to us that the President or the National Security Council considered the form and quality of the materials in the stockpile, and we believe that it's imperative that we do so.

Third, we're concerned about the criteria used to select the levels in the stockpile. Rumors abound that budgetary considerations were paramount in the formulation of it. We understand and support the actions of this Nation's serious budget problems. We know we have to do things to close that gap.

But the formulation of the national stockpile policy must acknowledge national security imperatives. A review of the uses and sources of the four key materials demonstrates both their importance to national security and the need to ensure adequate reserves for periods of national emergency. Chromium, cobalt, colombium, and manganese are alloying elements, largely without effective substitute in the short term.

They are used in the production of metals which are in turn used in an endless array of military and essential civilian applications. Ironically, the major reserves of these materials are located in unstable regions of the world or in countries already antagonistic to the interests of the United States. Mr. Andrews adequately covered that in his remarks.

Chromium is essential to the production of stainless steel. Stainless steel is defined with 11.5 percent or more of chromium, and the world's reserves predominantly lie in southern Africa.

As shown in the attachment to our testimony, 72 percent of the world's reserves are in the country of South Africa, other countries, such as Zimbabwe, with about 16.5 percent of the reserves and the Soviet Union with 6.4 percent of the reserves. The importance of an adequate stockpile of chromium for periods of national emergency requires no further explanation.

Cobalt presents a similar, though less acute, dependence on foreign sources. Cobalt is generally found associated with nickel or copper deposits and is produced as a byproduct. Zaire and Zambia are currently the largest producers in the world, with significant mine production also emanating from Australia, Canada, Cuba, Finland, and the Soviet Union.

There are U.S. deposits of cobalt, as we've just discussed in this session earlier, and they are even—cobalt supplies are even more considerable than those of chromium deposits in the United States, but they certainly are not economical at the current world price levels. Despite the presence of domestic deposits and the wide distribution of world production, a crisis in key regions of the world could cause very serious dislocations while new sources were identified and developed.

Fourth, the specialty steel industry is concerned about the impact of the President's stockpile proposal on the U.S. industry producing high carbon ferrochromium. In 1983 the President instituted a program to upgrade the stocks of chromium ore in the stockpile by converting it into high-carbon ferrochromium. High-carbon ferrochromium is the iron-chromium alloy most frequently used in specialty steel production.

We supported that stockpile conversion program for two reasons. It would help preserve ferrochromium production capacity in the United States; and two, the program would upgrade the stockpile to ready it for immediate use in case of a national emergency.

We believe and we continue to believe that the stockpile conversion program is the most direct and precise means of preserving essential high-carbon ferrochromium capacity in the United States. The treatment of chromium in the President's stockpile proposal leaves the question of whether this program will continue, leaves it open.

Most of the chromium stocks are placed in a supplemental reserve, with no indication of whether conversion plans remain active. The specialty steel industry urges the retention of the stockpile conversion program regardless of the ultimate resolution of the current stockpile proposal.

Finally, our industry is concerned about the methods by which the excess stocks will be disposed in the marketplace. American mining and metals industries have experienced a trying decade thus far, and our suppliers have been hit particularly hard. A massive release of stockpiled materials in the market could be extremely disruptive and counterproductive.

Even though possibly beneficial to my company and our industry in the short run, the long-run impact could be negative or the domestic mining and metals industry, the specialty steel industry of the United States, and thus the United States as a whole.

We accordingly urge a very careful release of any material declared excess in the stockpile so as to avoid serious market dislocations.

We thank you for your attention for these few remarks, and we'd be pleased to answer any questions you may have regarding this testimony.

[The prepared statement of Mr. Roedel follows:]

BEFORE THE

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

HEARING ON OVERSIGHT OF THE PRESIDENT'S JULY 8, 1985 NATIONAL DEFENSE STOCKPILE MODERNIZATION PROPOSAL

STATEMENT OF

PAUL R. ROEDEL

ON BEHALF OF

THE SPECIALTY STEEL INDUSTRY
OF THE UNITED STATES

November 14, 1985

Senate Committee on Energy and Natural Resources

Hearing on Oversight of the President's July 8, 1985 National Defense Stockpile Modernization Proposal

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Mr. Chairman and Members of the Committee:

My name is Paul R. Roedel. I am President and Chief Executive Officer of Carpenter Technology Corporation, a producer of specialty steels headquartered in Reading, Pennsylvania. With me is Ralph Leinbach, a senior vice president of our company who has responsibility for our technical, engineering and purchasing groups. We are appearing here today on behalf of the Specialty Steel Industry of the United States, a trade association representing American specialty steel producers. I am Chairman of that organization's Advisory Committee.

I appreciate the opportunity to testify on an aspect of national security that is so often ignored or misunderstood, but yet is so critical. The National Stockpile Policy and its method of implementation can significantly influence our nation's vulnerability to economic warfare as well as determine its success in actual warfare. I will focus on two critical materials in the stockpile of particular concern to the Specialty Steel Industry: chromium and cobalt. I should note that columbium and manganese are also important to our industry.

The President's July 8 announcement can only be described as a "mixed bag" with respect to these materials. From the information publicly available, it appears that at least one year's supply -- either in the stockpile or in the supplemental reserve -- of chromium and cobalt will remain in the stockpile. The chromium stocks, including the supplemental reserve, actually appear to exceed three year's supply at normal consumption levels.

Nevertheless, several aspects of the President's stockpile proposal or the manner in which it was formulated are troubling to the Specialty Steel Industry. First, the status of the "supplemental reserve" as part of the stockpile is important to an evaluation of the President's proposal. It is of particular importance for our key materials. The exclusion or disposal of the supplemental reserve from the stockpile would drastically reduce stocks of our materials. Supplies of chromium would last only one year at normal consumption levels, while no reserves of columbium or manganese would remain available. From our perspective, if a material is critical to national security, then it should be placed wholly within the stockpile. If the President deems a material not critical to national security, it should be excluded from the stockpile altogether. We urge the clarification of this issue, and the clear inclusion of the supplemental reserve into the final stockpile goals.

Second, we are concerned about the quality and form of the materials in the stockpile. We understand that the cobalt material presently in the stockpile may not be of sufficient quality for aerospace applications. Additionally, the form determines the potential applications and flexibility of material in the stockpile. Chromium ore cannot be used practically in steelmaking with today's processing equipment; it first must be reduced into an iron-chromium alloy. If the form of chromium in the stockpile is solely ore, the material would be forced to undergo that intermediate step before possible use in steelmaking. There is no indication that the President considered the form and quality of materials in the stockpile, and we believe it imperative to do so.

Third, the Specialty Steel Industry is concerned about the criteria used to select the levels in the stockpile. Rumors abound that budgetary considerations were paramount in the formulation of this proposal. While we understand and support actions to resolve this nation's serious budget problems, the formulation of national stockpile policy must acknowledge national security imperatives as well.

A review of the uses and sources of our four key materials demonstrates both their importance to national security and the need to insure adequate reserves for periods of national emergency. Chromium, cobalt, columbium and manganese are alloying agents -- largely without effective substitutes in the short term -- used in the production of metals which are in turn used in an endless array of military and essential civilian applications. Ironically, the major reserves of these materials are located generally in unstable regions of the world or in countries already antagonistic to the interests of the United States.

Chromium, for example, is absolutely essential to the production of stainless steel; in fact, stainless steel is defined as containing 11.5 percent or more of chromium. The world's reserves of chromium predominantly lie in South Africa. As shown in the attachment, one source places South Africa's reserves at nearly 72 percent of total world reserves. Other than South Africa, only Zimbabwe (with 16.5 percent of total reserves) and the Soviet Union (with 6.4 percent) possess significant deposits. The importance of an adequate stockpile of chromium for periods of national emergency requires no further explanation.

Cobalt presents a similar, though less acute, dependence on foreign sources. Cobalt is generally found associated with nickel or copper deposits and produced as a by-product. Zaire and Zambia are currently the largest producers in the world, with significant mine production also emanating from Australia, Canada, Cuba, Finland and the Soviet Union. U.S. deposits of cobalt are more considerable than of chromium, but the deposits are not economical at current world price levels. Despite the presence of domestic deposits and wide distribution of world production, a crisis in key regions of the world could cause very serious dislocations while new sources were identified and developed.

Fourth, the Specialty Steel Industry is concerned about the impact of the President's stockpile proposal on the U.S. industry producing high carbon ferrochromium. In 1983, the President instituted a program to upgrade the stocks of chromium ore in the stockpile by converting it into high carbon ferrochromium. High carbon ferrochromium is the iron-chromium alloy most frequently used in specialty steel production. The Specialty Steel Industry supported this stockpile conversion program for two reasons: (1) the program would help to preserve ferrochromium production capacity in the United States; and (2) the program would upgrade the stockpile to ready it for immediate use in a national emergency. We believed and continue to believe that the stockpile conversion program is the most direct and precise means of preserving essential high carbon ferrochromium capacity in the United States.

The treatment of chromium in the President's stockpile proposal leaves open the question of whether this program will continue. Most of the chromium stocks are placed in the supplemental reserve, with no indication of whether conversion plans remain active. The Specialty Steel Industry urges the retention of this stockpile conversion program regardless of the ultimate resolution of the current stockpile proposal.

Finally, the Specialty Steel Industry is concerned about the methods by which the excess stocks will be disposed in the marketplace. The American mining and metals industries have experienced a trying decade thus far, and our suppliers have been hit particularly hard. A massive release of stockpiled metals in the market could be extremely disruptive and counterproductive. Even though possibly beneficial to my company and our industry in the short-run, the long-run impact could be negative for the domestic mining and metals industry, the Specialty Steel Industry of the United States, and thus the United States as a whole. We accordingly urge the careful release of excess stockpiled metals so as to avoid serious market dislocations.

I thank you for your kind attention to my remarks this morning. I would be pleased to answer any questions that the Committee may have regarding my testimony.

TOTAL REVISED RESERVES OF CHROMIUM ORE

(millions of metric tons)

Country	Reserves	%
Albania	7.0	0.2
Brazil	9.0	0.3
China (P. Republic)	1.0	—
Colombia	0.1	—
Cuba	0.5	—
Cyprus	0.2	—
Finland	49.7	1.5
Greece	0.2	—
India	90.0	2.7
Iran	1.5	0.1
Japan	Min	—
Malagasy	5.0	0.1
New Caledonia	n.a.	—
Pakistan	0.1	—
Philippines	10.0	0.3
South Africa (300 metre depth)	2,397.0	71.7
Sudan	1.5	0.1
Soviet Union	215.0	6.4
Turkey	5.0	0.1
Zimbabwe	550.0	16.5
TOTAL	**3,342.8**	**100.0**

Includes only countries with chromium ore production capability

Source — British Geological Sciences — London

The CHAIRMAN. Thank you very much.

Mr. Powers.

STATEMENT OF MARTIN B. POWERS, CORPORATE VICE PRESIDENT, BRUSH WELLMAN, INC., ACCOMPANIED BY STEPHEN ZENCZAK, GENERAL MANAGER AND VICE PRESIDENT, METALS/MINERALS DIVISION, BRUSH WELLMAN, INC.

Mr. POWERS. Mr. Chairman, my name is Martin Powers. I am a corporate vice president of Brush Wellman, Inc. With me today is Mr. Stephen Zenczak, general manager and vice president of Brush Wellman's Metal/Minerals Division.

Mr. Chairman, I have a very brief statement I would like to read and then three disclosures with details supporting it which I would like to have inserted in the record in their entirety.

The CHAIRMAN. They will be made a part of the record.

Mr. POWERS. Fine. Thank you.

Brush Wellman is a truly unique company. We are the world's largest producer of beryllium containing materials. We are the only fully integrated producer of beryllium in the world. We operate our own mines. We have the only plant in the noncommunist world capable of extracting beryllium from ore. And we are the only producer of metalic beryllium in the free world.

The purpose of our testimony here this morning is to alert this committee to a matter of grave national concern and to request the committee's support in calling this matter to the attention of the appropriate Government officials. Prior to 1984, there was in the National Defense Stockpile approximately 18,000 tons of beryl ore with a beryllium equivalent content of about 500 tons, approximately 7,400 tons of beryllium-copper master alloy with a beryllium equivalent content of about 296 tons, and 229 tons of metalic beryllium in the form of vacuum-cast ingots.

All of these materials are intermediate products that would require further processing to convert them to a form in which they would then be useable. In their present form, they are not usable.

Now, this statement is not to be construed as negative criticism of past acquisition policies. At the time each of these materials was acquired, the rationale for its acquisition and for the form in which it was acquired was valid and reasonable.

To illustrate, the beryllium ore was acquired between 1946 and 1953, when there was no domestic ore supply, when beryl ore imported from politically and economically unstable countries was our only source. Subsequently, Brush Wellman developed domestic ore deposits and began mining and milling these domestic ores in 1968.

Proven reserves from the domestic Brush Wellman ores are sufficient to satisfy the entire free world's beryllium requirements for well into the next century.

The history of the various beryllium acquisitions is attached hereto as enclosure No. 1.

Beryllium is an absolutely essential material for virtually every strategic system which the Defense Department has in development or in production. It is essential for nuclear weapons, missiles, space and aircraft guidance systems, satellite structures, target acquisition systems, and for a number of components being evaluated for the strategic defense initiative programs.

A partial list of such uses is attached as enclosure No. 2.

Recognizing that there was a beryllium metal deficit of 171 tons in the stockpile and that any interruption in the extraction of oxide from ore at the Brush plant in Utah or in the production of beryllium from oxides at the Brush plant in Ohio would have a disastrous effect on these national defense programs, the Federal Emergency Management Agency issued a directive to the General Services Administration in 1982 to acquire metalic beryllium to meet the beryllium goal deficit. This directive had the active support of other agencies, particularly Defense, Energy, and Commerce.

In 1983, GSA contracted with Brush Wellman for delivery of 30 tons of metalic beryllium billets in final usable form to the stockpile during calendar year 1984, with annual options exercisable by GSA for future year deliveries. In 1984, GSA contracted for another 30 tons, deliverable over calendar year 1985.

In July 1985, negotiations for delivery of another 30 tons over calendar year 1986 were terminated when the National Security Council issued a moratorium on beryllium purchases.

Based upon our calculations, which are attached as enclosure No. 3 to this statement, we estimate that the 60 tons of useful beryllium in the stockpile will provide sufficient material to sustain critical national defense programs of not more than 7 months, and this is a very optimistic estimate. We are certain that it is much less than that.

But since Brush Wellman has the only beryllium production plant in the free world, any interruption of Brush Wellman's production in excess of 7 months at the outside, either due to war, act of God, industrial accident or sabotage, would have serious national defense implications.

In summary, beryllium is absolutely essential to national defense. At present, the stockpile contains 25,663 tons of beryllium-containing materials, of which only 60 tons is usable in its present form. The 60 tons represent not more than 7 months of national defense sustainability. Brush Wellman has the free world's only beryllium-producing plant. Loss of that plant for more than 7 months would have disastrous national defense implications.

There is a deficit goal of 171 tons of beryllium in the stockpile, against which 60 tons has been acquired. Acquisition of the remaining deficit would provide an additional full year's national defense sustainability protection.

Upgrading the 229 tons of presently nonusable beryllium vacuum castings in the stockpile to final form beryllium billets, such as the 60 tons now in the stockpile, would provide an additional sustainability protection period sufficient to cover any loss of Brush Wellman production. Therefore, we recommend the National Security Council withdraw its moratorium on beryllium acquisition and that the General Services Administration be authorized to resume acquisition of beryllium for the stockpile.

Further, we recommend that GSA be authorized to begin negotiations on the upgrading of the 229 tons of beryllium vacuum castings in the stockpile to beryllium billets in final form.

Mr. Chairman, we appreciate the opportunity to present this issue to you and we'd be happy to answer any questions you may have.

[The prepared statement of Mr. Powers follows:]

STATEMENT BY BRUSH WELLMAN INC. BEFORE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
NOVEMBER 14, 1985

Mr. Chairman, my name is Martin Powers. I am Corporate Vice President of Brush Wellman Inc. With me this morning is Mr. Stephen Zenczak, General Manager and Vice President of Brush Wellman's Metal/Minerals Division.

Brush Wellman is a truly unique company. We are the world's largest producer of beryllium-containing materials and we are the only fully integrated producer of beryllium in the world. We operate our own mines, we have the only plant in the non-Communist world capable of extracting beryllium from ore and we are the only producer of metallic beryllium in the Free World.

The purpose of our testimony here this morning is to alert this committee to a matter of grave national concern and to request the committee's support in calling this matter to the attention of the appropriate government officials.

Prior to 1984 there was in the National Defense Stockpile approximately 18,000 tons of beryl ore, with a beryllium equivalent content of about 500 tons; approximately 7,400 tons of beryllium copper master alloy, with a beryllium equivalent content of about 296 tons and 229 tons of metallic beryllium in the form of vacuum cast ingots. All of these materials are intermediate products that would require further processing to convert them to a form in which they would then be usable. In their present form they are not usable. This statement should not be construed as negative criticism of past acquisition policies. At the time each of these materials was acquired the rationale for its acquisition and for the form in which it was acquired was valid and reasonable. To illustrate, the beryl ore was acquired between 1946-1953 when there was no domestic ore supply and when beryl ore imported from politically and economically unstable countries was our only source. Subsequently Brush Wellman developed domestic ore deposits and began mining and milling these domestic ores in 1968. The proven reserves from the domestic Brush Wellman ores are sufficient to satisfy the Free World's beryllium requirements for well into the next century. A history of beryllium acquisitions is attached hereto as Enclosure #1.

Beryllium is an absolutely essential material for virtually every strategic system which the Defense Department has in development or in production. It is essential for nuclear weapons, missiles, space and aircraft guidance systems, satellite structures, target acquisition systems and for a number of components being evaluated for the Strategic Defense Initiative programs. A partial list of such uses is attached as Enclosure #2.

Recognizing that there was a beryllium metal deficit of 171 tons in the Stockpile and that any interruption in the extraction of oxide from ore at the Brush plant in Utah or in the production of beryllium from oxide at the Brush plant in Ohio would have a disasterous effect on these national defense programs, the Federal Emergency Management Agency issued a directive to the General Services Administration in 1982 to acquire metallic beryllium to meet the beryllium goal deficit. This directive had the active support of other agencies, particularly Defense, Energy and Commerce.

In 1983 GSA contracted with Brush Wellman for delivery of 30 tons of metallic beryllium billets in final usable form to the Stockpile during calendar year 1984, with annual options exercisable by GSA for future year deliveries. In 1984 GSA contracted for another 30 tons deliverable over calendar year 1985. In July of 1985 negotiations for delivery of another 30 tons over calendar year 1986 were terminated when the National Security Council issued a moratorium on beryllium purchases.

Based upon our calculations, which are attached as Enclosure #3 to this statement, we estimate that the 60 tons of usable beryllium in the Stockpile will provide sufficient material to sustain critical national defense programs of not more than seven months. Since Brush Wellman has the only beryllium production plant in the Free World, any interruption of Brush Wellman production in excess of seven months, whether due to war, act of God, industrial accident or sabotage would have serious national defense implications.

In summary, therefore:

Beryllium is absolutely essential to national defense.

At present the Stockpile contains 25,663 tons of beryllium-containing materials but only 60 tons is usable in its present form.

The 60 tons represent not more than seven months of national defense sustainability.

Brush Wellman has the Free World's only beryllium-producing plant. Loss of that plant for more than seven months would have disasterous national defense implications. There is a deficit goal of 171 tons of beryllium in the Stockpile against which 60 tons has been acquired. Acquisition of the remaining deficit would provide an additional full year's national defense sustainability protection.

Upgrading the 229 tons of presently non-usable beryllium vacuum castings in the Stockpile to final-form beryllium billets, such as the 60 tons now in the Stockpile, would provide an additional sustainability protection period sufficient to cover any loss of Brush Wellman production.

Therefore, we recommend the National Security Council withdraw its moratorium on beryllium acquisition and the General Services Administration be authorized to resume acquisition of beryllium for the Stockpile. Further, we recommend that the GSA be authorized to begin negotiations on the upgrading of the 229 tons of beryllium vacuum castings in the Stockpile to beryllium billets in final form.

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ENCLOSURE #1

CHRONOLOGICAL HISTORY OF STOCKPILE ACQUISITION OF BERYLLIUM-CONTAINING MATERIALS

BERYL ORE

Date of Acquisition:

1946 - 1953

Form:

Beryl ore containing 11% beryllium oxide or approximately 3.5% beryllium content.

Quantity:

18,000 ST (short tons, i.e., 2,000 lbs./ton)
as beryl ore, with a yielded beryllium content of 500 tons.

Purpose of Acquisition:

At time of acquisition, all U.S. beryllium was extracted from beryl ore imported principally from politically unstable sources such as India, Africa and South America. No domestic source of ores was available. Discovery of bertrandite ores in Utah and commencement of domestic mining in 1968 made ore stockpile obsolete.

Usability of Material:

Not usable in present form. Only plant in non-Communist world capable of extracting beryllium from these ores is Brush Wellman plant in Delta, Utah.

BERYLLIUM COPPER MASTER ALLOY

Date of Acquisition:

1954 - 1961

Form:

Intermediate alloy containing approximately 4% beryllium, balance copper. Master alloy can be converted into a family of more dilute alloys in final usable form which contain from 2% beryllium (maximum strength, minimum electrical conductivity) to less than 0.5% beryllium (minimum strength, maximum electrical conductivity).

Quantity:

7,387 ST with a net beryllium content of 296 tons (7,387 x 4%).

Purpose of Acquisition:

World War II experience indicated that a sudden surge in beyllium copper demand would arise in wartime. Difficulty of stockpiling for requirements arising many years in the future, for unidentified applications with unforeseeable specifications, dictated stockpiling of an intermediate alloy that could be converted into usable form.

Usability of Material:

Not usable in present form. Two producer plants in the United States and one in Japan can convert to currently usable material. These alloys cannot be utilized as a substitute for metallic beryllium, however, in any of the DOD-DOE applications.

METALLIC BERYLLIUM

Date of Acquisition:

1962 - 1968

Form:

Vacuum cast ingots. An intermediate form of metallic beryllium capable of being processed by powder metallurgy to finished parts.

Quantity:

229 ST

Purpose of Acquisition:

Same rationale as for beryllium copper master alloy. Intermediate product provided maximum flexibility to meet changing final requirements as long as adequate multiple plants existed to convert intermediate material to final products. At the time of acquisition there were three such plants in existence. Today there is only one plant.

Usability of Material:

Not usable in present form. Only plant in non-Communist world capable of conversion is Brush Wellman plant in Elmore, Ohio.

Enclosure #1
Page 3 of 3

METALLIC BERYLLIUM

Date of Acquisition:

1984 - 1985

Form:

Hot pressed beryllium block to final specification of Departments of Energy and Defense.

Quantity:

60 tons, of which 30 tons were delivered in calendar year 1984 and 30 tons will be delivered during calendar year 1985.

Purpose of Acquisition:

Virtually all beryllium is produced for essential national defense purposes. Hot pressed beryllium block is the only beryllium-containing material in the Stockpile that is immediately usable for DOD-DOE programs of the type set forth in Enclosure #2. The Brush plant in Elmore, Ohio is the only plant in the Free World capable of producing this material. Loss of this plant would stop U.S. defense efforts without the existence of sufficient usable Stockpile beryllium.

Usability of Material:

In its present form this material can be readily fabricated into finished parts by any number of DOE or DOD contractors and is not dependent upon the existence of the Brush plant for its utilization. For this reason we have classified this material as "immediately usable". However, there is no "instrument grade" beryllium in the Stockpile. This is a special grade of material required for a number of Defense Department programs. At the time of the NSC moratorium negotiations were underway to include a quantity of instrument grade beryllium in the 60 tons to be acquired annually by GSA.

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ENCLOSURE #2

REPRESENTATIVE LIST OF DEFENSE PROGRAMS FOR WHICH BERYLLIUM IS AN ESSENTIAL MATERIAL

Production Programs

- Trident
- Peacekeeper (MX)
- Special Applications - DOE, Office of Military Applications
- Advanced Helicopter Improvement Program (AHIP)
- Anti Satellite Program (ASAT)
- F15; F16; B-1
- Defense Meteorological Satellite Program (DMSP)
- Defense Satellite Communication System (DSCS)

Development Programs

- Midget Man (Small ICBM)
- Airborne Optical Adjunet (AOA)
- High Endo Atmospheric Defense Sys. (HEAD)
- Exothermic Re-entry Intercept Sys. (ERIS)
- Talon Gold
- Other Classified Systems

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ENCLOSURE #3

COMPUTATION OF NATIONAL DEFENSE SUSTAINABILITY BASED UPON 1984 PRODUCTION DATA FOR BERYLLIUM

At the end of calendar year 1985, with the completion of deliveries of beryllium now on order, the Stockpile will contain 25,663 tons of material containing 1,215 tons of beryllium. However, all but 60 tons of this material is not usable in its existing form without further conversion. Only one plant exists in which such conversion could take place. If that plant were to be incapacitated by accident, sabotage or any other cause, the 60 tons would provide a national defense sustainability of not more than seven months. Beyond that we would be vulnerable. The seven months capability is predicated upon current usage as reflected in 1984 production figures of Brush Wellman, the Free World's only producer of beryllium, as follows:

Total 1984 production of hot pressed block, exclusive of deliveries to the GSA Stockpile, was 169,000 lbs. This is the form of material represented by the 60 tons of usable beryllium in the Stockpile. From this we produced 56,350 lbs. of parts which were shipped to DOE-DOD contractors. This represents a yield of 33%. The balance is scrap and recyclable material (which, again, can only be utilized for recovery in the Brush plant).

Applying this 33% yield to the 120,000 lbs. of usable beryllium in the Stockpile would result in 40,000 lbs. of parts. This equates to 8.4 months supply based upon the 1984 sales to DOE and DOD of 56,350 lbs. However, what we sell to DOE-DOD are semi-finished shapes which require further fabrication (machining, forming, etc.) by our customers. We have no way of gauging the yield of these subsequent operations. However, we do know the usage of beryllium is increasing. The total production for the most recent twelve- month period (October 1984 through September 1985) was 190,000 lbs. as compared to the 169,000 lbs. for 1984, an increase of about 10%. The estimate of seven months is a theoretical maximum period and in all probability is substantially on the high side.

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The **Chairman**. Thank you very much.

Mr. Roedel, on page 4 of your statement you refer to the upgrading program for high carbon ferrochrome instituted by the President in 1983. Is that program continuing or has it been affected by the President's proposal of July 8?

Mr. **Roedel**. We saw nothing in the proposal, the President's proposal of July 8, addressing that issue at all. We understand that the program is continuing now and our statement was meant to—our statement was meant to urge that, regardless of what happens to the stockpile levels, that that program be continued.

Ralph, I believe that is still—the program is still going on?

Mr. **Leinbach**. Yes.

The **Chairman**. I've just been notified that another OCS amendment has been called up on the floor and I am unfortunately going to have to go to the floor. But before doing that, let me ask you, Mr. Powers, just a couple of questions and we'll submit the balance for the record.

In view of the seriousness of the beryllium situation, have you talked to the agencies involved, such as Defense, Energy, and so forth?

Mr. **Powers**. Yes, sir, we have. We briefed the Department of Energy and we briefed the Department of Defense, and we were accompanied by representatives of the Department of Defense when we went over to the National Security Council and we briefed Mr. Levine there on the issues.

The **Chairman**. What was their reaction?

Mr. **Powers**. Defense and Energy concurred. They admitted that our 7 month estimate is an optimistic one. They are privy to classified information which would indicate the situation is even more serious than we have outlined it, and for that reason they have submitted to the National Security Council a position paper supporting us.

The representative of the Security Council was noncommittal. He merely said he would take it under advisement, and we have heard nothing further.

The **Chairman**. When was that?

Mr. **Powers**. That was August 14, 1985.

The **Chairman**. It's been several months.

Mr. **Powers**. Three months exactly.

The **Chairman**. Three months exactly.

I assume that Brush Wellman makes a profit on your production?

Mr. **Powers**. Yes, sir, we usually do.

The **Chairman**. And you're the only producer. How is it, if it's profitable, you're the only producer?

Mr. **Powers**. There is a very, very limited market for beryllium metal, which is the product of interest, at issue here. It's almost entirely governmental end use, and it isn't large enough to support more than one producer.

The **Chairman**. I think you indicated that between 1960 and 1979 there were three producers and none made any money?

Mr. **Powers**. That is correct, sir, and the other two dropped out.

The **Chairman**. The other two dropped out.

Mr. **Powers**. Yes, sir.

The CHAIRMAN. And when they dropped out you made some money?

Mr. POWERS. We began making some money on that product, yes, sir.

The CHAIRMAN. What assurance does the Government have that you're going to stay in?

Mr. POWERS. Well, the other two products containing beryllium, beryllium alloys and beryllia ceramics, are commercial products. They are the backbone of our industry and we must—we have the only extractive capability, so we must continue to operate our extraction capability and continue.

We have competition in those other products. We have given the Department of Defense and the Department of Energy, though, our guarantees that we will continue to stay in the metalic beryllium business, and we will give you, Mr. Chairman and your committee, that same assurance this morning. We will be in the business.

The CHAIRMAN. I have some other questions to submit to this panel for the record, and other members of the committee may also. I would ask for your prompt responses, as prompt as you can so we can include those responses in the record.

Gentlemen, I thank you for your testimony this morning.

Let me ask of the other witnesses—I think we have two panels, four witnesses, yet to be heard—if you could come back in say 1 hour, and that will permit me to go to the floor and take care of that amendment on the floor. And if those four witnesses could return, we'll recess. Is that satisfactory?

All right. We'll stand in recess until the hour of 1:30.

[Whereupon, at 12:30 p.m., the committee was recessed, to reconvene at 1:30 p.m. the same day.]

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

We have Mr. Nelson Angapak and Mr. Robert Daniel. Gentlemen, you may proceed. Your entire prepared statements will be placed in the record. You are invited to proceed in whatever way that you desire.

STATEMENT OF NELSON N. ANGAPAK, PRESIDENT, CALISTA CORP.

Mr. ANGAPAK. Mr. Chairman, for the record, we have a prepared statement. And I would like to thank you for telling us in advance that the statement will be entered into the record in its entirety. My testimony will be focused on the platinum metal groups, one of the metal groups affected by the President's proposal on reduction of stockpile of strategic metals.

Good afternoon, Mr. Chairman. My name is Nelson Angapak. I am president of Calista Corp. Calista appreciates the opportunity to appear before you today to discuss the President's recent proposal for changes in our national stockpile policy, particularly as it relates to the platinum group metals.

As the major owner in one of the two known domestic platinum districts, Calista Corp. is very concerned about the President's proposal and this country's dangerous dependence on unstable and unreliable sources of platinum. As you know, Mr. Chairman, Calista Corp. is one of the corporations that were formed pursuant to the terms of the Alaska Native Claims Settlement Act of December 18, 1971. At the time of the passage of the Land Claims Settlement Act, Calista Corp. and its two villages, Platinum and Good News, selected lands valuable primarily for potential as sources—as a potential source of platinum.

Mr. Chairman, the President's proposal as it was stated on July 8, 1985—the President proposed drastic reductions in the stockpile goals and major changes in the underlying assumptions governing the National Defense Stockpile. We don't necessarily disagree with the President too often, but in this instance we feel that this act by the President was something that is totally dangerous for the history—I mean, for the future of this Nation.

The President's plan provoked a strong congressional reaction, and within 3 weeks Congress enacted a freeze on the President's authority to make any changes in stockpile policy. We feel that this was a very wise move on the part of Congress, considering the past global conflicts where our strategic metals have come in very handy.

The platinum group metals are noted for their stability under extreme heat. Resistance to high temperatures and to chemical attacks make platinum group metals important for any industry. They are used as catalysts in the production of nitric acid and refining of platinum. They are also essential to the production of catalytic converters.

Because of the pervasive use of platinum in U.S. industries, the Office of Technology Assessment has identified platinum as 1 of the 4 minerals that is most essential to the U.S. economy and 1 of the 4 that is most subject to possible disruption in supply. For this reason, the platinum metals group have been long considered strategic and critical metals.

In 1982, for example, the Soviet Union and South Africa accounted for 50 percent, 54 percent, and 40 percent, of the world's production of platinum metal groups. The United States imported 48 percent of its supply from South Africa, 16 percent from the Soviet Union, and 14 percent from the United Kingdom. The imports from the United Kingdom, the source for that material came primarily from South Africa or Canada.

The United States is dangerously dependent on South Africa and the Soviet Union for one of the four metals that the OTA considers to be most essential to the U.S. economy. In contrast, at the present time we feel that the Soviet Union is virtually self-sufficient in strategic and critical metals.

Despite this dependence on unstable and unreliable sources of supply and despite the importance of platinum to our economy and to our national defense, the Reagan administration has proposed to eliminate platinum group metals from our national stockpile. Not only does the President propose to stop buying platinum, palladium, or iridium, but he also proposes to sell off the existing stockpiles, all of them.

Under the President's proposal, the United States would be left with no stockpile of platinum whatsoever. The President's policy only increases the vulnerability of the U.S. economy to the severe disruptions in our supply of the platinum metal groups.

For example, Mr. Chairman, according to the research that we have done, we have found that platinum and iridium are the two metal groups that this Nation needs. The U.S. strategic stockpile as of September 1984 contained 27,790 ounces, troy ounces of iridium, and—excuse me—452,640 troy ounces of platinum.

The U.S. annual consumption of these two metals is approximately 20,000 troy ounces of iridium and 2 million ounces of platinum. With these figures in mind, according to the calculations that we have done, the stockpile contains roughly 1 year's supply of iridium and a 3 months 'supply of platinum at current rates of consumption.

I would like to add that the President's policy with regard to the platinum metal group was adopted prior to the current crisis levels of racial unrest in South Africa. The unrest created by this crisis has already driven the price of platinum above the gold prices. Should South African platinum mines be closed due to unrest, we will see a dramatic price increase in platinum metal groups.

In view of the relative stability of platinum prices over the last few years and the inability to foresee the rapid escalation of events in South Africa, it is easy to understand the President's policy, the policy with regards to the platinum metal groups. Recent events, however, have demonstrated that our reliance on the instability of foreign sources is unfounded and hazardous to our economy and strategic well-being.

Further, if the current political unrest in South Africa increases and mineral production is affected, the United States would have to turn to the Soviet Union as its sole supplier. If the Soviet Union was unwilling to—was unwilling or unable to supply our needs, our economy we feel could suffer severe economic dislocations.

Even if the Soviet Union were willing to supply our needs, do we really want to be so heavily dependent on the Soviet Union for a mineral that is so fundamental for our economy?

Calista Corp. feels that our country would be better served if our policy was designed to reduce our dependence on South Africa and the Soviet Union. We should be decreasing our dependence on foreign resources by increasing our use of domestic sources of platinum. Domestic sources do exist. Domestic sources of platinum do exist here in America.

Two platinum districts have already been identified in the United States. Although proven reserves have not been well defined in these districts, the existence of platinum metal is not a matter of speculation. The size of these deposits is only a matter of—is the only matter left to be determined.

We believe that the domestic suppliers need help completing exploration work or purchasing needed mining technology. Establishing the most effective incentive for the development of our domestic mining should be one of the priorities of our Government.

For a number of reasons, domestic platinum will be more expensive in the near future. But whatever the additional cost is involved, it would be a small price to pay for ending our dependence on unstable and unreliable sources of supply. A sudden disruption in supply from either South Africa or the Soviet Union would cost far more than any assistance that may be given to the domestic mining industry.

Mr. Chairman, as we understand it the administration's proposal for the implementation—I'm sorry. We feel that the administration's proposal cannot be implemented without the approval of Congress, a process that promises to be lengthy and difficult. While it is improbable that Congress will approve the President's proposal in its entirety, executive branch agencies could very well be acting as if the changes that they are proposing are already approved by Congress.

We feel that this is a very dangerous thing to do and we applaud the actions that were taken by this Congress to freeze the—put a freeze on the President's proposal. It's our sincere hope that this committee will take a very close look at both the President's stockpile proposal and this country's dependence on foreign sources of strategic and critical metals such as platinum.

Calista Corp. is very anxious to have its platinum resources developed in the near future. We believe that the development of these resources would be very beneficial for the United States, for Calista Corp., as well as our shareholders. We would be delighted to continue discussing with this committee the best way in which we can proceed.

Mr. Chairman, lastly, on the record I would like to thank this committee for their demonstration in their continued support of the efforts of the corporations that were created pursuant to the terms of the Alaska Native Claims Settlement Act.

Thank you very much.

[The prepared statement of Mr. Angapak follows:]

TESTIMONY

BY

NELSON N. ANGAPAK
PRESIDENT
CALISTA CORPORATION

BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES
COMMITTEE

November 14, 1985

Good morning, Mr. Chairman. My name is Nelson Angapak. I am President of Calista Corporation. Calista appreciates the opportunity to appear before you today to discuss the President's recent proposal for changes in our national stockpile policy, particularly as it relates to the platinum group metals. As the major land owner in one of the two known domestic platinum districts, Calista Corporation is very concerned about the President's proposal and this country's dangerous dependence on unstable and unreliable sources of platinum.

Calista Corporation is one of the thirteen regional Native corporations formed by the passage of the Alaska Native Claims Settlement Act of 1971. We are the second largest Alaskan Native corporation in the state of Alaska.

At the time of the Alaska Native Claims Settlement Act, Calista Corporation and two of its village corporations, Arviq, Inc. and Kuitsarak, Inc., selected land valuable primarily for its potential as a source of platinum. This land is located about ten miles south of Goodnews Bay in southwest Alaska. Between 1927 and 1967 over one million troy ounces of platinum group metals were produced from Goodnews Bay deposits.

The platinum group metals are noted for their stability under extreme heat. Resistance to high temperatures and to chemical attacks make platinum group metals important for many industries. They are used as catalysts in the production of nitric acid and in the refining of petroleum. They are also essential to the production of catalytic converters.

Because of the pervasive use of platinum in U.S. industries, the Office of Tecnology Assessment has identified platinum as one of the four minerals that is most essential to the U.S. economy--and one of the four that is most subject to possible disruption in supply. For this reason, the platinum group metals have long been considered strategic and critical minerals.

In 1982, the Soviet Union and South Africa accounted for 54% and 40% of the world's production of platinum group metals. The United States imported 48% of its supplies from South Africa, 16% from the Soviet Union and 14% from the United Kingdom, but imports from the United Kingdom were processed from material imported into the United Kingdom from South Africa or Canada.

The United States is dangerously dependent on South Africa and the Soviet Union for one of the four metals that the Office of Technology Assessment considers to be most essential to the U.S. economy. In contrast, the Soviet Union is virtually self-sufficient in strategic and critical metals.

Despite this dependence on unstable and unreliable sources of supply and despite the importance of platinum to our economy and to our national defense, the Reagan Administration has proposed to eliminate platinum group metals from our national stockpile. Not only does the President propose to stop buying platinum, palladium and iridium, but he also proposes to sell off existing stockpile supplies. Under the President's proposal, the United States would be left with no stockpile of platinum whatsoever. The President's policy only increases the vulnerability of the United States economy to severe disruptions in our supply of platinum group metals.

The President's policy with regard to platinum group metals was adopted prior to the current crisis levels of racial unrest in South Africa. There is an old Yupik axiom that has some bearing on this matter. It is "Doingunirt'uq." Roughly translated it means hindsight is always better than foresight.

The unrest created by the crisis has already driven the price of platinum above gold prices. Should South African platinum mines be closed due to the unrest, we will see a dramatic increase in platinum prices.

In view of the relative stability of platinum prices over the past few years and the inability to foresee the rapid escalation of events in South Africa, it is easy to understand the President's policy with regards to platinum group metals. Recent events have, however, demonstrated that our reliance on the stability of foreign sources is unfounded and hazardous to our economic and strategic well-being.

Furthermore, if the current political unrest in South Africa increases and mineral production is affected, the United States would have to turn to the Soviet Union as its sole supplier. If the Soviet Union were unwilling or unable to supply our needs, our economy could suffer severe economic dislocations. Even if the Soviet Union were willing to supply our needs, do we really want to be so heavily dependent on the Soviet Union for a mineral that is so fundamental to our economy?

Calista Corporation believes that our country would be better served if our policy was designed to reduce our dependence on South Africa and the Soviet Union. We should be decreasing our dependence on foreign sources by increasing our use of domestic sources of platinum.

Domestic sources of platinum do exist. Two platinum districts have already been identified in the United States. Although proven reserves have not been well defined in these districts, the existence of platinum metals is not a matter of speculation. The size of these deposits is the only matter left to determine. Neither this determination nor domestic production will occur, however, without some assistance.

Domestic suppliers need help completing exploration work or purchasing needed mining technology. Establishing the most effective incentive for the development of our domestic mining should be priority for the Federal Government.

For a number of reasons, domestic platinum will be more expensive in the near term, but whatever additional expense is involved would be a small price to pay for ending our dependence on unstable and unreliable sources of supply. A sudden disruption in supply from either South Africa or the Soviet Union could cost far more than any assistance that may be given to the domestic mining industry.

It is my sincere hope that this Committee will take a very close look at both the President's stockpile proposal and this country's dependence on foreign sources of strategic and critical materials such as platinum. Calista Corporation is very anxious to have its platinum resources developed by the Native corporation. We believe the development of these resources would be very beneficial for the United States. We would be delighted to continue discussing with this Committee the best way in which to proceed.

We appreciate your attention. I would be happy to answer any questions you may have.

The **Chairman**. Thank you.

Mr. Daniel, we have your statement. It will be made a part of the record. I would invite you to summarize.

And I wonder if the other two witnesses, Mr. Botts and Mr. Pendleton, can come forward while you're making your statement, because we're very constrained for time.

STATEMENT OF ROBERT E. DANIEL, PRESIDENT, CHEVRON RESOURCES CO.

Mr. **Daniel**. Very well. Thank you, Mr. Chairman.

My name is Robert Daniel and I am president of Chevron Resources Co., wholly owned by Chevron Corp. Very briefly, our job is to find opportunities to develop nonhydrocarbon resources and geothermal energy. Important among these is the Stillwater platinum and palladium project in Montana.

Throughout this morning we've heard excellent testimony from many people on the importance of these metals and the importance of developing an adequate stockpile policy for this country. I will leave that subject and rather focus on a potential source of domestic platinum and palladium and the impact that the sale of the current stockpile could have on that development.

Chevron Resources Co. is managing partner of Stillwater Mining Co., a partnership with Manvile Products Corp. and Black Minerals, Limited. We are keenly interested in the proceedings of this committee and appreciate the opportunity to give you our views.

We are currently in the stage of developing the only significant source of platinum and palladium in the United States, with the possible exception of the occurrences that have been described by Mr. Angapak. At that point, I would emphasize that our particular project is 3 to 1 palladium over platinum. We see no conflict.

We believe that a competitive domestic supply of these metals is highly desirable, if not vital, and are concerned that sale of the national defense stockpile could put the project in jeopardy. First, let me describe the project very briefly.

The **Chairman**. I wonder if I could interrupt at that point, because we simply don't have time to go through the entire statement, and I'll not have any chance to hear the other two witnesses.

Your statement will be a matter of record and if you could summarize very briefly. I hate to do that to people who have had to wait, but I have no alternative.

Mr. **Daniel**. I will attempt to do that, Mr. Chairman.

The **Chairman**. Thank you.

Mr. **Daniel**. I think the essence of the Stillwater is that it is an enormous resource and literally could have hundreds of years of reserves if they can be proven economic.

The **Chairman**. Could I ask just one question in that summary. If the stockpile goals were implemented with the sale of the stockpile materials, your project in Montana would simply not be economically possible in the foreseeable future, is that correct?

Mr. **Daniel**. I think that's a very——

The **Chairman**. How many years in the future would it be, if you can predict that at all?

Mr. **Daniel**. Well, I would say if the stockpile were sold over a period of say 5 years, these are still very significant quantities annually. But it would set the project back at least 5 years in terms of starting. I must say that we need real price increases, really, to justify the development.

And I do want to emphasize the importance of the long term here, because it is such an enormous resource, estimated to be 200 million ounces. And we just feel it's so important to get started, on a small scale, and determine that we can mine competitively in the world. And we are bullish on the outlook of the market and feel that natural market forces will ultimately make it economic.

We feel it would be a shame of this policy of the President's had a severe depressing effect on the market and this whole project had to be shelved.

[The prepared statement of Mr. Daniel follows:]

Statement

of

Robert E. Daniel

President, Chevron Resources Company

Before the

Senate Energy and Natural Resources Committee

U.S. Senate

November 14, 1985

Mr. Chairman and members of the Committee, my name is Robert Daniel. I am President of Chevron Resources Company, which is wholly owned by Chevron Corporation. Our company is responsible for Chevron's efforts to diversify into the non-hydrocarbon minerals and geothermal energy businesses. We have mining and geothermal operations in California, Nevada, New Mexico, Utah, Texas and Montana and have extensive exploration activities in a number of other states as well as several foreign countries.

Chevron Resources Company is managing partner of Stillwater Mining Company which is a partnership with Manville Products Corporation and LAC Minerals Ltd. I appreciate the opportunity to appear before you today on behalf of Stillwater Mining Company. Stillwater Mining Company is in the initial stages of developing the only significant source of platinum and palladium metals in the United States. We believe that a competitive domestic supply of these important metals is highly desirable and are concerned that sale of the National Defense Stockpile could put the project in jeopardy. First, let me briefly describe our mining project.

The Stillwater property is located in south central Montana - about 80 miles southwest of Billings - in Stillwater County. The platinum and palladium mineralization we are planning to mine is found in a steeply dipping, narrow zone within a unique geologic formation called the Stillwater Complex. The mineralized zone is known to extend over a 30 mile trend along the northeastern flank of the Beartooth Mountains. This large mineral resource has been estimated to contain about 225 million combined ounces of platinum and palladium by the U.S. Bureau of Mines. Geologic exploration and evaluation of this large resource has been underway since the late 1960's, with over $45,000,000 risk money spent to date.

Only a small portion of this trend has been explored in detail, hence the mineable reserves are only partly known. We have recently completed an extensive mine feasibility study which outlined ore reserves containing over 85,000 ounces of platinum and 250,000 ounces of palladium in proven and probable ore and over 370,000 ounces of platinum and 1.2 million ounces of palladium in possible ore. The ratio of palladium to platinum in our ore is estimated to be three to one, making it the only primary palladium resource in the world. We fully expect these ore reserve estimates to increase substantially as additional drilling is extended along the trend during mine development and operation.

We have concluded from our studies that commercial mine development is economically justified given our present knowledge of geologic conditions and production costs, and our product price expectation. At today's prices, project development may not be economically justified considering the large capital investment required to bring the mine into production. However, we do not think that palladium and platinum prices will continue to remain at today's depressed levels over the long term under stable conditions. This forecast would surely be dampened if huge additional supplies of these metals entered the marketplace from the National Defense Stockpile.

As there remains sufficient uncertainty as to the economic feasibility of the project, a relatively conservative approach to commercial mine development has been adopted. We are currently beginning mine development. If results meet our expectations, we plan to start construction of an ore concentrator next summer and initiate commercial operation at a relatively small production rate in 1987.

Our current plans are to start the project at a 500 ton per day mining rate in mid-1987. At this rate we would produce about 75,000 ounces of palladium and 25,000 ounces of platinum each year. If conditions are favorable, we plan to double that output as early as warranted. Further expansions and a very long mine life are possible thus ensuring a significant and dependable supply base for many years to come.

We currently employ about 60 people at the mine and would employ over 250 workers at the 1,000 ton per day operating rate. These new primary jobs are forecast to create at least 100 secondary jobs in the county. Our annual payroll is estimated to exceed seven million dollars. The project will increase the local tax base by 25%. In addition to tax revenue, we will be providing over two million dollars of financial assistance to local governmental units for building new school facilities, additions to sewer and water systems and for road maintenance and improvements. We believe our development plan is environmentally sound and would provide substantial economic benefits to south central Montana as well as begin the development of a domestic supply of metals that have national importance.

The proposed new policy which calls for eliminating platinum group metals from the National Defense Stockpile and selling these metals over the next five years is likely to seriously disrupt the free world markets for platinum and palladium. The mere decision to sell the 1.25 million ounces of palladium and 450,000 ounces of platinum currently in the stockpile would immediately create a huge market overhang. Selling this material into the current market even over a period of time would undoubtedly depress prices further for some time to come. Such a result would certainly change our thinking regarding price forecasts and could well bring about the cancellation of the Stillwater development.

Even if the platinum and palladium now contained in the stockpile were sold over the a five year period, the quantities are so significant that there is little doubt that such sales would have a serious impact on market prices. The quantities to be sold would represent about 25% of the annual U.S. consumption of palladium and over 10% of the U.S. platinum consumption for each of the five years.

In our opinion, platinum and palladium rightly belong in Tier I of the National Defense Stockpile. The U.S. is virtually 100% dependent on imports for new supplies of these metals. Over 90% of these imports are from the Republic of South Africa and the Soviet Union. Most certainly these metals should not be eliminated from the strategic materials stockpile altogether. They shouldn't be sold off not only because of their importance to our national defense and economic security but also because of the adverse impact that disposal would have on the ability to develop a domestic source. If these metals are not placed in the Tier I category they should be retained in the Tier II "supplemental reserve" category as additional assurance against shortages and kept off the market.

Stillwater Mining Company's initial production of platinum and palladium is small in relation to the domestic demand, however, the potential resource is enormous. In the event of a national emergency, production from an existing mine could be expanded quite rapidly. Developing a new mine in the Stillwater Complex from scratch to a significant production rate would likely take several years even in emergency conditions. If the existing stockpile were retained, it could be used during the time it would take an on-going small production source, at Stillwater, to expand to meet critical needs.

In conclusion, Stillwater Mining Company is now proposing to develop a small, secure domestic supply of platinum and palladium. We are proposing this development at a time when prices are low and the mining industry is generally depressed. This is only possible because of our bullish forecast for the future demand for these metals. Our development has been planned in an environmentally sound manner and includes plans for eliminating any adverse "boom town" impacts on local communities. The project has the strong support of the people of these communities.

It would be unfortunate if a shock to the market caused by sale of the stockpile were to cause cancellation or delay in developing this unique domestic source. We urge the adoption of a strategic metals policy that retains platinum and palladium in the National Defense Stockpile and does not impede the development of a competitive domestic source of these important metals.

Thank you Mr. Chairman.

The **Chairman**. Thank you very much. I appreciate your testimony. Again I apologize for the necessity of abbreviating the statement.

Mr. **Daniel**. You're welcome, Mr. Chairman. Thank you.

The **Chairman**. Mr. Botts and Mr. Pendleton, your statements also will be placed in the record in full, and I would invite you to summarize as rapidly as you can the points that you are trying to make.

STATEMENT OF VICTOR V. BOTTS, MANAGER, NEVADA OPERATIONS, PLACER U.S., INC.

Mr. **Botts**. My name is Victor Botts and I'm manager of Nevada Operations for Placer U.S. Placer U.S. operates the McDermott mercury mine located in northern Nevada. This mine is currently the only significant mercury producer in the United States and in fact in the Western Hemisphere. Those would be our credentials to discuss mercury.

Other suppliers to the United States, larger suppliers, are Spain and Algeria, both government entities. And the remaining U.S. consumption comes from disposals from the existing National Defense Stockpile.

Rapidly condensing, the present mercury goal of the National Defense Stockpile is 10,500 flasks, which is simply less than 2 to 3 months supply for the United States. We feel it's just way, way too low now.

The modernization proposal is for zero, and the logic of that totally escapes us. It is a critical method. We don't know, obviously, how they came up with that requirement. There is a double effect, though, not only in the disposal down to zero in the national stockpile, but further the release of that enormous amount of mercury that's currently in the stockpile, 170,000 flasks, would destroy the domestic mercury industry, which has already been damaged by GSA releases from the stockpile.

We've already been damaged. The further release of the 170,000 flasks over 5 years would virtually demolish the existing mercury industry. So you get a double effect. You don't have a stockpile and now you've destroyed the only industry that could have tried to help make up a lack on the stockpile.

That is our basic point, that we don't think those goals are realistic. We have an obvious self-interest in this, but nevertheless we feel we should have to come forward to speak in terms of the national interest. We can't see how the national interest is served by not having a supply of this critical metal.

And we were not consulted, nor did anyone ask us for any information regarding our mine, our reserves, or anything else regarding setting those goals.

I'd be happy to answer any questions and we thank you for the ability to testify here today.

[The prepared statement of Mr. Botts follows:]

NOVEMBER 14, 1985

STATEMENT OF VICTOR V. BOTTS, NEVADA OPERATIONS MANAGER, PLACER U.S., INC., REGARDING MERCURY AND U.S. STOCKPILE GOALS AND DISPOSAL POLICY

BEFORE THE UNITED STATES SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES, THE HONORABLE JAMES A. McCLURE, CHAIRMAN

Mr. Chairman and members of the Committee, my name is Victor V. Botts. I am the Nevada Operations Manager for Placer U.S., Inc., of San Francisco. Placer U.S., Inc. is an American subsidiary of Placer Development Limited, a mining concern headquartered in Vancouver, B.C. McDermitt Mine, managed by Placer U.S. Inc., is currently the only significant mercury producer in the United States and in fact the Western Hemisphere. This mine provides about one-third of the present U.S. mercury demand. The present ore reserves of McDermitt Mine are sufficient for five years of production at current levels. Should McDermitt Mine cease production for any reason, the U.S. would be entirely dependent upon offshore suppliers. The largest overseas mercury suppliers to the U.S. for the past several years have been Spain and Algeria. The remaining U.S. consumption requirements have been met by disposals from the U.S. Strategic Stockpile.

Mercury is a strategic and critical material as defined in the Strategic and Critical Materials Stock Piling Act. Domestic consumption of mercury is close to 55,000 flasks (76 lbs. average per flask) per year. Principal uses are for battery manufacture, chlorine and caustic soda production, various electrical devices, and paint preservatives including marine anti-fouling paints.

A recently completed U.S. Bureau of Mines study on mercury availability indicates that the McDermitt Mine ore body contains some 74% of the currently recoverable U.S. mercury reserve. While the U.S. may contain additional mercury resources, the time frame required for ore reserve development, mine and processing plant engineering, and mine construction is estimated to be a minimum of three to five years. The impact of this time frame and its relation to stockpile requirements, under certain circumstances, are demonstrated in Tables I and II.

In passing the Stockpile Act, the Congress recognized the need for a three-year supply of critical and strategic materials to prevent a "dangerous and costly dependence" on foreign sources in the event of an emergency. The existing stockpile goal for mercury, as determined in 1979 by the Federal Emergency Management Agency (FEMA), is 10,500 flasks — about a three months' domestic supply. As inadequate as this present goal is, the stockpile "modernization" proposal issued by the President on July 8, 1985, apparently would eliminate mercury as a stockpile material altogether. Under both the existing and proposed goals, then, the stage has been set for a dangerous and costly dependence on foreign sources of mercury.

Placer U.S. Inc. believes that the present National Defense Stockpile mercury goal is based on direct military requirements. Our firm does not have the necessary information to comment on that requirement. However, it would appear that no consideration has been given to the mercury supply required by the industrial and manufacturing economy sectors which would support the military during an emergency. Even if half of the current annual domestic mercury consumption were to be non-essential during wartime, the mercury stockpile would be exhausted in approximately six months.

The impact of the Administration's stockpile "modernization" proposal would also have a devastating effect on domestic mercury production, and particularly on the

McDermitt Mine operation. The President has proposed, in his July 8, 1985 press release, to sell the bulk of the surplus materials over a five-year period. The President has stated that those sales will be conducted in a manner that "minimizes market impacts."

Mr. Chairman, let me assure you that there is no conceivable way GSA could sell all or even the bulk of its current mercury stockpile over five years without destroying the domestic market. There are currently over 170,000 flasks of prime virgin mercury in the defense stockpile, all of which apparently would be considered surplus under the Administration's proposal. GSA would have to dump more than 30,000 flasks on the market each year — i.e., more than half of the nation's annual consumption — in order to comply with the Administration's five-year disposal plan. But that is not all. In addition, the recent DOE authorization for disposal by GSA of some 35,000 flasks of mercury from the DOE inventory over the next two fiscal years would not only wipe out the domestic industry but would have major consequences in the overseas mercury market.

The President's plan would exacerbate what in recent years has been a soft market for mercury. The existing market conditions have resulted in part from the already unrealistically low stockpile goal for mercury, coupled with GSA's sales of surpluses at prices below current market. Even with the relatively modest quantities of stockpiled mercury that Congress has authorized to be disposed of in the past several years (e.g., 5,000 flasks of metallic mercury in addition to 750,000 lbs. of mercuric oxide in FY 1985), GSA on several occasions has led the market downward with sales below Metals Week prices. As a consequence of the soft market, McDermitt Mine was forced to cut back its production and to reduce its workforce by about 25% in 1985.

To our knowledge, mining industry representatives were not consulted during the National Security Council study on which the Administration's stockpile modernization plan is based. Moreover, the study itself has been kept closely under wraps, so it has been impossible to examine the assumptions and methodology used to arrive at the proposed stockpile goals. We urge the Congress to scrutinize the Administration's proposal very carefully. In our view it is not justifiable on either national security or economic grounds.

Mr. Chairman and members of the Committee, it has been a pleasure to appear before you today. On behalf of Placer U.S. Inc., I thank you for making time available to hear from us and other representatives of the mining industry which would be so strongly impacted by the Administration's stockpile proposal.

TABLE I

U.S. MERCURY STOCKPILE REQUIREMENTS
WITH McDERMITT MINE PRODUCTION AND THE DEVELOPMENT
OF THREE MEDIUM PRODUCTION MERCURY MINES

(All units 76-lb. Flasks)

YEAR	1	2	3	4	5	6	TOTALS
TOTAL U.S. MERCURY REQUIREMENT	54,300	54,300	54,300	54,300	54,300	54,300	325,800
LESS DOMESTIC PRODUCTION	25,000	25,000	22,050	15,000	20,000	18,300	125,350
REQUIREMENT FROM STOCKPILE & IMPORTS	29,300	29,300	32,250	39,300	34,300	36,300	200,450
CUMULATIVE FROM STOCKPILE	29,300	58,600	90,850	130,150	164,450	200,450	200,450
MINE DEVELOPMENT LEAD TIME TO PRODUCTION	Mine No. 1/5,000 flasks per yr →			5,000	5,000	5,000	15,000
	Mine No. 2/5,000 flasks per year →				5,000	5,000	10,000
	Mine No. 3/5,000 flasks per year →					5,000	5,000

TABLE II

U.S. MERCURY STOCKPILE REQUIREMENTS WITHOUT McDERMITT MINE PRODUCTION AND THE DEVELOPMENT OF THREE MEDIUM PRODUCTION MERCURY MINES

(All units 76-lb. Flasks)

YEAR	1	2	3	4	5	6	TOTALS
TOTAL U.S. MERCURY REQUIREMENT	54,300	54,300	54,300	54,300	54,300	54,300	325,800
LESS DOMESTIC PRODUCTION	0	0	0	5,000	10,000	15,000	30,000
REQUIREMENT FROM STOCKPILE & IMPORTS	54,300	54,300	54,300	49,300	44,300	39,300	295,800
CUMULATIVE FROM STOCKPILE	54,300	108,600	162,900	212,200	256,500	295,800	295,800
MINE DEVELOPMENT LEAD TIME TO PRODUCTION	Mine No. 1/5,000 flasks per yr →			5,000	5,000	5,000	15,000
	Mine No. 2/5,000 flasks per year →				5,000	5,000	10,000
	Mine No. 3/5,000 flasks per year →					5,000	5,000

The **Chairman**. Thank you very much.

Mr. Pendleton.

STATEMENT OF EDMUND PENDLETON, ATTORNEY AT LAW, ANDERSON & PENDLETON

Mr. **Pendleton**. Thank you, Mr. Chairman.

The mining and agricultural industries of the United States both are plagued with excess capacity, shrinking markets, and rocketing financial loss. In the fifties, agriculture and to a lesser degree mining faced a similar situation. The cost of storing agricultural surpluses had risen to $700,000 a day. Dairy products, though stored under refrigeration, were spoiling.

Wise policymakers in the Congress concluded:

> The funds and assets of CCC can much better be protected by exchanging when the opportunity offers some of its costly-to-store agricultural surplus for non-deteriorating, easily stored strategic materials, even though these may have to be held for some time as the property of CCC.

The Congress drafted new surplus disposal legislation, Public Law 480, creating a supplemental stockpile, to be distinguished from today's so-called supplemental reserve. "Materials acquired under authority of this title to be placed in the above-named supplemental stockpile may be additional to the amounts acquired under the authority of the Strategic and Critical Materials Stockpile Act."

In 1958, the Congress established for the supplemental stockpile. "Materials for which the United States does not domestically produce its requirements, which entail less risk of loss through deterioration or substantially less storage charges."

By 1966, agricultural surpluses were no longer a problem, so the authority of the Department of Agriculture to add to the supplemental stockpile was terminated, and in 1979 the supplemental stockpile was consolidated into the National Defense Stockpile.

Forty-five different materials have been acquired by the supplemental stockpile and $2.5 billion of surplus agricultural commodities were exported. Substantial storage charges were saved by the Commodity Credit Corporation. The assets of the CCC were protected. CCC owned minerals, rather than rancid butter.

I have two recommendations. First, the supplemental stockpile should be reestablished in the Commodity Credit Corporation. Surplus agricultural commodities should be used to acquire materials which are nondeteriorating, less expensive to store than agricultural commodities, of which the United States does not produce its requirements.

Second, Congress and the administration presently have different positions regarding the National Defense Stockpile. Ultimately, the conflicting positions will be reconciled. Some portion of the materials now in the National Defense Stockpile will be declared surplus. Those materials should be transferred to a newly reestablished supplemental stockpile.

Thank you, Mr. Chairman. I'd be happy to answer questions.

[The prepared statement of Mr. Pendleton follows:]

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STATEMENT OF EDMUND PENDLETON
ANDERSON & PENDLETON
BEFORE THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES HEARING ON STOCKPILING
NOVEMBER 14, 1985

Thank you, Mr. Chairman for the opportunity to appear before this Committee to testify on the subject of stockpiling. I have served with the U.S. Department of Agriculture, the Emergency Minerals Administration of the Department of the Interior, the Department of Defense as a consultant on barter and stockpiling, and as counsel to the agricultural and minerals industries. With your leave, I will summarize my statement and offer my full statement for the record.

The mining and agricultural industries of the United States both are plagued with excess capacity, shrinking markets and skyrocketing financial losses. In the 1950's, agriculture, and to a lesser degree, mining, faced a similar situation. The cost of storing agricultural surpluses had risen to $700,000 a day. Dairy products, though stored under refrigeration, were spoiling. Wise policy-makers in the Congress concluded it would be better for the Commodity Credit Corporation to stockpile minerals.

In 1954, the House Committee on Agriculture concluded:

> "...the funds and assets of the CCC can be much better protected by exchanging, when the opportunity offers, some of its costly to store agricultural surplus for nondeteriorating, easily stored strategic materials, even though these may have to be held for some time as the property of CCC."

The Congress carefully drafted new surplus disposal legislation: PL480. Section 104(b) created the Supplemental Stockpile and directed:

> "...materials acquired under authority of this title shall be placed in the above named supplemental stockpile and may be additional to the amounts acquired under authority of the Strategic and Critical Materials Stockpile Act."

Acquisitions for the Supplemental Stockpile were to come from foreign currency purchases under Sec. 104 and in exchange for surplus agricultural commodities under Sec. 302.

In 1958 the Congress established guidelines for selecting materials for the Supplemental Stockpile:

> "...materials of which the United States does not domestically produce its requirements and which entail less risk of loss through deterioration or substantially less storage charges..."
> PL 85-931, amending 7 USC 1692.

By 1966 surpluses were no longer a problem. So the authority of the Department of Agriculture to add to the Supplemental Stockpile was terminated and in 1979 the Supplemental Stockpile was consolidated into the National Defense Stockpile.

****

By the end of 1961 some 45 different materials had been acquired by the Supplemental Stockpile. $1.1 billion of surplus agricultural commodities were exported to additional markets, beyond usual cash sales. Substantial storage charges were saved by the Commodity Credit Corporation. The assets of the CCC were protected; CCC owned minerals rather than rancid butter.

Recommendations:

(1) The Supplemental Stockpile should be re-established in the Commodity Credit Corporation. Surplus agricultural commodities should be used to acquire for this stockpile materials which are:

- non-deteriorating
- less expensive to store than agricultural commodities, and
- of which the United States does not produce its requirements.

(2) The Congress and the Administration presently have different positions regarding the scope, extent and purpose of the National Defense Stockpile. Ultimately the conflicting positions will be reconciled. Some portion of the materials now in the National Defense Stockpile will be declared surplus. Those materials should be transferred to the newly re-established supplemental stockpile.

Thank you, Mr. Chairman. I would be happy to answer questions.

A Proposal to Re-establish the Supplemental Stockpile in the Commodity Credit Corporation

The mining and agricultural industries of the United States both are plagued with excess capacity, shrinking markets and skyrocketing financial losses. In the 1950's, agriculture, and to a lesser degree, mining, faced a similar situation. The cost of storing agricultural surpluses had risen to $700,000 a day. Dairy products, though stored under refrigeration, were spoiling. Wise policy-makers in the Congress concluded it would be better for the Commodity Credit Corporation to stockpile minerals received in exchange for some of the agricultural surpluses.

Since the establishment of the National Defense Stockpile prior to World War II, there have been efforts to use agricultural surpluses as the financing for meeting its goals for strategic and critical materials. That is a different subject matter, not covered within the scope of this memorandum.

Sec. 5(f) of the Commodity Credit Corporation Charter Act, 15 USC §714c, (1948) authorized the Corporation to exchange its surpluses for non-strategic materials. This authority was never utilized by the Department of Agriculture.

Mounting agricultural surpluses in the 50's brought this declaration of policy from the House Committee on Agriculture:

> ...the Department (of Agriculture) has maintained the policy of declining to accept in trade for its agricultural surplus any strategic materials that it did not have an immediate sale for to the appropriate Government agency. While not criticizing the Department for this attitude (since there was no legislative policy statement to guide it) the committee believes that the funds and assets of the CCC can be much better protected by exchanging, when the opportunity offers, some of its costly to store agricultural surplus for nondeteriorating, easily stored strategic materials, even though these may have to be held for some time as the property of CCC. (H. Rept. No. 1776, June 9, 1954.)

The Congress carefully drafted the new program in PL 480, the popular name for the Agricultural Trade Development and Assistance Act of 1954. Section 104(b) established the Supplemental Stockpile and directed:

> ...materials acquired under authority of this title shall be placed in the above named supplemental stockpile and may be additional to the amounts acquired under authority of the Strategic and Critical Materials Stockpile Act.

Section 303 specified that..."Strategic materials so acquired by the Commodity Credit Corporation shall be considered as assets of the Corporation..."

Acquisitions for the Supplemental Stockpile were to come from foreign currency purchases under Sec. 104 and in exchange for surplus agricultural commodities under Sec. 302. The Conference Report, No. 1947, June 29, 1954, commenting on Sec. 302, said it "... will broaden the authority to barter surplus commodities for strategic or other materials not produced in adequate quantities in the United States..."

Implementation of this authority did not occur until two years later, when the Congress passed additional legislation, authorizing transfer of these "other materials" to the Supplemental Stockpile:

> Strategic and other materials acquired by the Commodity Credit Corporation as a result of barter or exchange of agricultural commodities or products, unless acquired for the national stockpile...shall be transferred to the supplemental stockpile... (Sec. 206, PL 84-540, 7 USC §1856.)

Acknowledging the existence of a non-strategic material stockpile, the Office of Defense Mobilization declined to designate materials to be placed there. Accordingly the Supplemental Stockpile Advisory Committee for Barter was created to recommend to the Secretary of Agriculture materials for that stockpile.

Pleased with the growth of the Supplemental Stockpile and the concurrent exports of surplus agricultural commodities, in 1958 the Congress enacted several amendments strengthening the stockpiling authority of the Department of Agriculture. Guidelines were established for selecting materials for the Supplemental Stockpile:

> ...materials of which the United States does not domestically produce its requirements and which entail less risk of loss through deterioration or substantially less storage charges... (PL 85-931, amending 7 USC §1692.)

Supplemental Stockpiling still encountered administrative delays. So in 1959 the Congress amended Sec. 104(b) of PL 480, 7 USC §1704, substituting "strategic or other materials" for "strategic and critical materials" in two instances. Commenting on its action, the House Committee on Agriculture explained:

> In order to break the logjam having to do with the designation of materials which can be taken through barter, where the objection or failure to act of one member of an interdepartmental committee can prevent a material from being designated, the bill provides that any of the materials of the type presently in the strategic stockpile shall be taken if they are cheaper to store and do not deteriorate....Other materials that can be taken in payment for surplus commodities include raw materials of which the United States does not produce its requirements... PL 86-341, US Code and Admin. News, p. 2720.

By 1966 the job of the Supplemental Stockpile was done. This and other disposal mechanisms had restored balance to the agricultural stocks of the United States. Surpluses were no longer a problem. So the authority of the Department of Agriculture to add to the Supplemental Stockpile was terminated by PL 89-808, 17 USC " 1704(b). Ultimately the Supplemental Stockpile was consolidated into the National Defense Stockpile, Sec. 4, PL 96-41, 1979, 50 USC §98c.

Evaluation of the old Supplemental Stockpile - By the end of 1961 some 45 different materials had been acquired by the Supplemental Stockpile; the total value was over $1.1 billion. Many of these materials were minerals mined to some extent in the United States. $1.1 billion additional agricultural commodities were exported. Substantial storage charges were saved by the Commodity Credit Corporation. The assets of the CCC were protected; CCC owned minerals rather than rancid butter.

A careful historian of the stockpile program had this to say about the

Supplemental Stockpile:

> The 1954 Act and the stepped-up barter activity reflected mutual support between the agricultural price-support program and the stockpile program.... The Department of Agriculture gained financially (despite the incongruity of its becoming a stockpiler of metals and minerals). The national security ostensibly benefited, and both the farm groups and the mining interests approved. Eisenhower Stockpile Program, pp 222,223, Congressional Research Service, Library of Congress.

Proposal - The Supplemental Stockpile should be re-established in the Commodity Credit Corporation. Surplus agricultural commodities should be traded or sold to acquire for this stockpile materials which are:

- non-deteriorating
- less expensive to store than agricultural commodities, and
- of which the United States does not produce its requirements.

Examples of materials which would meet these tests are crude oil, copper, nickel and silver.

The Congress and the Administration presently have different positions regarding the scope, extent and purpose of the National Defense Stockpile. This hearing of the Senate Committee on Energy and Natural Resources has been called to review the Administration's position. Ultimately the conflicting positions will be reconciled. Some portion of the materials now in the National Defense Stockpile will be declared surplus. I would recommend that those materials be transferred to the newly re-established supplemental stockpile in the CCC.

11/14/85 Edmund Pendleton

The Chairman. Thank you very much.

I do have some additional questions to be submitted to each of the witnesses in writing. And I did have one question I wanted to address to Mr. Angapak. If you could come back up, I would appreciate it.

I know that the native corporations, in trying to follow what Congress had set out as a matter of national policy, made land selections based upon that policy and other policies of the Federal Government. You've identified that one of the selections made by your corporation was lands that have mineral potential and you selected them for that reason.

Do you have any immediate plans for the development of that mineral deposit, or is it something that is a little farther in the future?

Mr. Angapak. Mr. Chairman, insofar as the development of that potential is concerned, at the moment we are looking at the feasibility of a development of the lode. Insofar as the placer potential is concerned, we have plans of doing some placering within either this coming summer or next couple years.

But to be quite honest, what we're looking for is someone who would be—is basically a market for the product, because, you know, we're not like these other major corporations. We can't afford to keep major stockpiles of the resource that we develop.

The Chairman. Thank you.

Mr. Daniel, you've indicated earlier that if there were a sale of the stockpile today it would push your plans off some time in the future. If at some time, and you hadn't gone forward, if you were just where you are now and you've done nothing more to develop that deposit, and there were a national emergency, how long from the beginning of the emergency to production, how long would it take?

Mr. Daniel. Well, to reach significant levels of production I would say 3 to 4 years. We plan to reach a level, a small level of production in 2 years on the present plan, but that would nowhere near meet the requirement.

The Chairman. Which underscores a question with respect to national security: Will all war production wait 3 or 4 years to start?

Mr. Botts, with respect to the McDermott Mine, what has been the effect on the McDermott, NV, area of the low mercury stockpile goal and GSA sales of mercury now deemed surplus to the stockpile?

Mr. Botts. Well, we believe those sales, some of which have been made on the down side of the market—in other words, the sales were not conducted in the manner that they should have been—have lowered the price of mercury and also lowered the demand for mercury.

We have cut back production there considerably. We just recently cut it back another 25 percent and had to reduce our employees from 60 to 40. So it has a big impact on a very small community, as you might imagine.

The Chairman. Senator Hecht has asked that some other questions be submitted.

Mr. Pendleton, I am intrigued both by your experience and your suggestion, one that you made reference to but didn't pursue, as well as the one which you made as a positive suggestion, the one with respect to the supplemental reserve that might be set up in addition to the stockpile itself, and the other, in which I understand you've had substantial experience in the past, was the use of commodities for barter.

Is that a viable option today?

Mr. PENDLETON. Oh, I believe it is; sir, yes.

The CHAIRMAN. And we could do that without disrupting either the agricultural commodity or minerals markets?

Mr. PENDLETON. It was done before to the extent of $2.5 billion, just for the supplemental stockpile. In addition to that, enormous quantities were procured through barter for the National Strategic Critical Materials Stockpile.

The CHAIRMAN. Gentlemen, I again apologize for the abbreviated nature of this session this afternoon, which as I anticipated is abbreviated by a vote on the floor.

Senator Bingaman also has a statement which will be made a part of the record at an appropriate point, and I have an opening statement which will be inserted at the beginning of this hearing today.

I am particularly sorry I was called to the floor at the time Congressman Bennett was appearing before this committee, because I want to work very closely with the Congressman in developing a stockpile proposal. He is a major player and an important force in the formulation of congressional policy, and I think working together we will be able to do far more than we would be able to do separately. I will be communicating with him individually, but I want this statement on the record.

Finally, I think it may be necessary for us in this committee to hold classified hearings so that we can look at the basis of the administration's policy with respect to stockpile goals.

Some of that information, much of it, is classified, necessarily and properly so. But I think we must understand what their assumptions were when they took those positions so that we can make our own judgments as to whether or not national security is being adequately addressed.

The administration was invited to appear here today and to present testimony. They declined to do so. We didn't wish to force that issue. I hope that signals a willingness or a desire on their part to re-evaluate the positions that they have enunciated before this, and if that is indeed the case I want to give them enough time to do that.

But as has been mentioned, Congress has taken a role already. I and this committee in the Senate and Congressman Bennett and his committee in the House came to identical conclusions, that we must suspend the application of the most recent objectives as established by the administration until Congress can make its own determination of whether or not that policy statement is reasonable.

Again, I wish to thank all the witnesses who participated here and to assure you that this is not the end of our interest, but only a beginning of it.

Thank you very much for your appearances here today.

[Whereupon, at 2:04 p.m., the hearing was adjourned.]

APPENDIXES

Appendix I

Responses to Additional Committee Questions

MELVIN PRICE, ILLINOIS, Chairman Emeritus
CHARLES E. BENNETT, FLORIDA
SAMUEL S. STRATTON, NEW YORK
BILL NICHOLS, ALABAMA
DAN DANIEL, VIRGINIA
G.V. (SONNY) MONTGOMERY, MISSISSIPPI
RONALD V. DELLUMS, CALIFORNIA
PATRICIA SCHROEDER, COLORADO
BEVERLY B. BYRON, MARYLAND
NICHOLAS MAVROULES, MASSACHUSETTS
EARL HUTTO, FLORIDA
IKE SKELTON, MISSOURI
MARVIN LEATH, TEXAS
DAVE McCURDY, OKLAHOMA
THOMAS M. FOGLIETTA, PENNSYLVANIA
ROY DYSON, MARYLAND
DENNIS M. HERTEL, MICHIGAN
MARILYN LLOYD, TENNESSEE
NORMAN SISISKY, VIRGINIA
RICHARD RAY, GEORGIA
JOHN M. SPRATT, JR., SOUTH CAROLINA
FRANK McCLOSKEY, INDIANA
SOLOMON P. ORTIZ, TEXAS
GEORGE (BUDDY) DARDEN, GEORGIA
TOMMY F. ROBINSON, ARKANSAS
ALBERT G. BUSTAMANTE, TEXAS

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U.S. House of Representatives
COMMITTEE ON ARMED SERVICES
Washington, DC 20515
NINETY-NINTH CONGRESS
LES ASPIN, WISCONSIN, Chairman

WILLIAM L. DICKINSON, ALABAMA
G. WILLIAM WHITEHURST, VIRGINIA
FLOYD SPENCE, SOUTH CAROLINA
MARJORIE S. HOLT, MARYLAND
ELWOOD H. (BUD) HILLIS, INDIANA
ROBERT E. BADHAM, CALIFORNIA
BOB STUMP, ARIZONA
JIM COURTER, NEW JERSEY
LARRY J. HOPKINS, KENTUCKY
ROBERT W. DAVIS, MICHIGAN
KEN KRAMER, COLORADO
DUNCAN L. HUNTER, CALIFORNIA
THOMAS F. HARTNETT, SOUTH CAROLINA
DAVID O'B. MARTIN, NEW YORK
JOHN R. KASICH, OHIO
WILLIAM CARNEY, NEW YORK
LYNN MARTIN, ILLINOIS
HERBERT H. BATEMAN, VIRGINIA
MAC SWEENEY, TEXAS
BEN BLAZ, GUAM

G. KIM WINCUP, STAFF DIRECTOR

December 17, 1985

Honorable James A. McClure, Chairman
Committee on Energy and Natural
  Resources
U. S. Senate
Washington, D. C. 20510

SENATE COMMITTEE ON
ENERGY AND NATURAL RESOURCES
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Dear Senator McClure:

This is in response to your letter of November 19, 1985 asking for my views on a series of questions on the National Defense Stockpile. My response to the questions is enclosed.

I want to thank you for the opportunity to express my views on the President's July 8th proposal to reduce the National Defense Stockpile goals for strategic and critical materials.

It is my intention to hold hearings on the National Security Council's stockpile goals study as soon as the General Accounting Office completes the review that you and I requested. During those hearings I intend to take testimony on H.R. 3743 which would provide for the establishment by law of the goals for the National Defense Stockpile.

At that time, I would very much appreiate your appearing before our subcommittee and supporting this legislation.

With personal regards, I am

Sincerely,

Charles E Bennett

Charles E. Bennett
Chairman
Subcommittee on Seapower and Strategic
  and Critical Materials

CEB:dpc

Enclosure

1. DO YOU THINK THAT IT IS APPROPRIATE TO CREATE A MAIN STOCKPILE AND A "SUPPLEMENTAL RESERVE" AS PROPOSED BY THE PRESIDENT? WHY OR WHY NOT?

As I said in my testimony before the committee, basic common sense tells me that the National Security Council's recommendation to reduce National Defense Stockpile goals by 95% has to be dead wrong. It is inconceivable to me that the current stockpile goal of $16 billion can be reduced to only $700 million and still meet the massive requirements for materials that would be required during a protracted military conflict.

The President's proposal for a Tier I of $700 million and a Tier II (supplemental reserve) of $6 billion seems to be merely a device to ease disposal of stockpile assets. The first stage provides for stockpile sales of $2.5 billion over the next five years and the implicaion that material in the supplemental reserve would then be available for disposal. Therefore, I oppose the National Security Council recommendation to split the stockpile into two tiers.

I believe the President has been ill served by those who have advised him to dispose of our stockpile materials. National security considerations must take priority over short-term attempts to realize budgetary savings by selling materials which would be vital to the nation in time of war.

The Congress has already rejected the National Security Council's recommendations by passing an amendment to the FY 1986 Supplemental Appropriations Act and by including language in the FY 1986 Defense Authorization Act prohibiting any reduction in stockpile goals during FY 1986. Furthermore, I intend to pursue passage of my legislation (H.R. 3743) which would vest Congress with the authority to establish stockpile goals by law.

2. DO YOU THINK A PART OF OUR STOCKPILE POLICY SHOULD BE TO PROVIDE INCENTIVES TO RECYCLE AND CONSERVE STRATEGIC MINERALS?

In order to reduce U.S. dependency on foreign suppliers, United States mineral policy should encourage recycling and conserving strategic and critical minerals. However, it is my opinion that such efforts should not be part of the National Defense Stockpile program. While the Strategic and Critical Materials Stock Piling Act does encourage materials research and development to improve domestic sources of supply and better utilization of strategic materials, any effort to provide incentives for recycling and conservation could best be accomplished through other committees of Congress. Such efforts are likely to produce a belief more sanguine than realistic.

Recycling, conservation and research and development could all contribute to meeting our strategic mineral requirements during a war. However, it would be a false impression to assume that these efforts can significantly reduce our requirements for a strong National Defense Stockpile.

3. DO YOU BELIEVE WE SHOULD PROVIDE INCENTIVES FOR PRIVATE STOCKPILING?

As part of a national minerals policy, I believe we should encourage private stockpiling since it would reduce some of the demands on the National Defense Stockpile in the event of a national emergency.

However, I am not sure in my own mind how a private stockpiling program would really work, how many defense contractors would be willing to participate, how much it would cost, or whether it would be cost effective.

While the concept of private stockpiling deserves further study, I believe it would be unwise to substitute centralized federal government control over a strong national defense stockpile for private stockpiling as the means of meeting the heavy defense requirements for strategic and critical materials during a protracted conventional conflict. Private stockpiling would not be easily controlled, and might yield unrealistic optimism if undue reliance were placed upon it.

4. DO YOU FAVOR THE BARTER OF AGRICULTURAL COMMODITIES HELD BY THE COMMODITY CREDIT CORPORATION FOR STRATEGIC MINERALS?

I am a strong proponent of bartering agricultural surpluses for strategic minerals as an ideal way of disposing of perishable commodities to the benefit of the United States taxpayer. The Stock Piling Act encourages the use of barter, ~~and I,~~ and other Members of Congress, in the 98th Congress attempted to strengthen this provision with H.R. 3544. In this congress, I have joined with other members, including Byron Dorgan and Cooper Evans, to again try to strengthen the barter provision in the Farm Bill.

You may remember that the Department of Agriculture administered a barter program for more than 20 years until it was suspended in 1973. During this period $6.6 billion of surplus wheat, feed grains, and other commodities owned by the Commodity Credit Corporation (CCC) were bartered. The export of these surplus commodities through barter arrangements expanded U.S. agricultural markets abroad, supported domestic producer prices by preventing the release of the surplus commodities into domestic markets, reduced costly CCC storage expenses, and limited the deterioration of perishable commodities held in CCC warehouses. As part of the return to our country for these barter transactions, $1.68 billion of strategic and critical materials were transferred to the National Defense Stockpile.

5. WHAT SHOULD THE U.S. GOVERNMENT BE DOING TO MAKE FOREIGN SOURCES OF SUPPLY MORE SECURE?

Securing foreign sources of supply during a national emergency is a most complex problem. There is little problem in peace time with secure sources. It is only during a war that the security of foreign sources of supply of critical materials to the United States becomes such a problem.

The vulnerability of supplier countries to military, economic or political pressures designed to impede or halt supplies to the U.S. might be lessened if the U.S. demonstrated a serious commitment to materials policies designed to reduce its own dependence or mitigate the effects of materials cutoffs during emergencies. This commitment is not demonstrated by drawing down the stockpile and, hence, hurting the domestic mining industry even more in the process. The more the U.S. depends on foreign suppliers, the more vulnerable we become to supply disruptions.

It would be much more cost effective to have an adequate stockpile of strategic materials in place than to attempt to secure foreign sources through military means.

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December 4, 1985

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Senator James A. McClure
Committee on Energy and Natural Resources
361 Dirksen Building
Washington, DC 20510

Dear Senator McClure:

I trust the following is responsive to your questions:

1. No, it's the only conclusion one can make.
2. No, ninety-six percent of the western world's reserves are in South Africa, three percent is in Austria; Garbon, Africa and Brazil.
3. I totally agree with the conversion program, but if we are going to zero goal, why continue?
4. Like the ferrochrome industry, it would dry up.
5. No.
6. No.
7. I believe it is extremely risky and cannot be all that much when you are dealing with only four percent of the reserves and other western nations would be competing for the material.
8. I am not an expert in lead and will leave this one to others.

In regard to Senator Johnston's questions:

1. No.
2. We should always recycle and conserve, it's just good business.
3. I have looked into private stockpiling and believe that the disadvantages out weight the advantages from the governments point of view.

Allegheny International, Inc., Two Oliver Plaza, P.O. Box 456, Pittsburgh, Pennsylvania 15230 412-562-4000

Senator James A. McClure
Page Two
December 4, 1985

4. We should always have some research and development on important strategic materials.
5. Of course, someday we will mine the ocean, but its considerably in the future.
6. Private industry is constantly exploring for critical materials but land use policy in this country prohibits some.
7. Adopt foreign policies that give high priority to maintaining access.
8. Yes, by demonstrating that the fears of demolition some of us have held are real.

Sincerely yours,

E. F. Andrews

EFA:ga

QUESTIONS FOR PANEL I -- MR. ANDREWS, MR. STRAUSS AND MR. ARY

1. The new stockpile policy identifies two tiers of commodities, one being those identified as "stockpile goals" (or Tier I) and the other as a "supplemental reserve" (or Tier II). Tier I would be those commodities identified as not being available in sufficient quantities during a protracted conflict, thereby fulfilling the stockpile definition. Tier II, outside this definition, therefore has to be surplus to emergency requirements. As I read the White House release, misleading language implies that both Tier I and Tier II commodities make up the stockpile. Tier II is said to offer additional assurance against material shortages during a period of military conflict. The fact of the matter is that the commodities in Tier II are in temporary holding classification, and being surplus to stockpile goals means they will be sold following the sale of those now proposed as excess. The White House press release, more honestly, should have stated that since only $691 million worth of minerals are needed in the stockpile, all that remains (about $9.4 billion worth) eventually will go to the auction block. My question to the panel is this: Is there any other interpretation that can be applied to the proposed stockpile?

2. Manganese has been assigned a zero goal in the proposed stockpile. Tier II would contain about 870,000 tons and about 1 million tons would be determined excess. However, since the Tier II is also excess to the zero goals, we have to assume that all of the manganese in the present stockpile, sooner or laer, is to be sold. Until I hear differently, I can draw no other conclusion. Although we do not know the estimated quantities needed for a 3-year conflict, I assume that the quantities needed will be considerabley more than for a good year of steel production. Can any of you gentlemen provide me with information that adequate overseas supplies will be available to the U.S. in case of a major conflict?

3. On a related issue, why are we still converting manganese ore to ferromanganese if all manganese in the stockpile will sooner or later be declared excess?

4. The ore to ferromanganese conversion program was primarily to keep some part of the ferroalloy industry in business. If, however, there is no reason to convert any additional ore to ferromanganese for stockpile purposes, can anyone venture an opinion of what will happen to our ferromanganese industry?

5. Are there any thoughts on what foreign suppliers of manganese will guarantee us adequate quantities during a major conflict?

6. While the policy of South Africa is to continue to be a reliable supplier of minerals, no one can predict when or how long political developments may disrupt those supplies. In the past, if shortfalls in supply were serious enough, defense industry requirements could be met by stockpile releases. Looking ahead to when the stockpile goals would be cut to the bone and surplused sold off, would we

then, in the event of a serious shortfall as in a period of mobilization, be in a position to make the allocations necessary to meet defense industry needs?

7. I have heard that other supplier countries could increase their manganese capacity to supply the U.S. if our supplies from South Africa are cut off. Is there any assurance of this since when without knowing the length of a cutoff, the financial cost of adding new capacity would be extremely risky?

8. The lead market has been disastrously low over the last 4 years and the price continues to slide. Under the proposed stockpile goals, about half of the 600,000 tons of lead in the present stockpile would be determined excess and the other half placed on the so-called "supplemental reserve." The latter classification means that it would be sold off afterward. Spacing out sales of the excess lead over 5 years would add 60,000 tons/year to the market over the first 5 years followed by another 60,000 tons/year over the second five years. What would be the consequences of this huge quantity of excess lead in the market?

QUESTIONS FOR PANELS I & II

Submitted by Senator Johnston

FOR THE RECORD

General

(1) Do you think that current Stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

- Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

(2) Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

- To your knowledge, what efforts are now being made by industry in the conservation area?

(3) Do you believe the federal government should take steps to encourage private stockpiling?

- To your knowledge, is private stockpiling now occurring? If so, in which industries and in what amount?

(4) Do you see a need for additional federal support for research and development of new technologies for strategic minerals?

- If so, in what particular areas?

(5) Are you familiar with exploration efforts occurring in the outer continental shelf with respect to strategic minerals?

- If so, please describe.

- What are the prospects for recovery?

(6) What other exploration activities are occurring in the strategic minerals industries with which you are familiar?

(7) What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

(8) Do you think the recent events in South Africa should affect Stockpile policy?

- If so, how?

SIMON D. STRAUSS
Consultant on Metal Markets

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November 22, 1985

Senator James A. McClure, Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
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WASHINGTON, D.C.

Dear Senator McClure:

In response to your letter of November 19 listing eight questions to supplement my testimony of November 14 before the Committee, I have the following responses:

1. I agree that the White House stockpile statement of July was decidedly ambivalent with respect to the real intent for creating the "supplemental reserve." This was perhaps a bargaining ploy. If pressured, the Administration might be prepared to classify the "supplemental reserve" as unavailable for sale after the sale of surplus materials has been concluded. If not pressured, however, OMB officials may well have expected to continue sales from the tonnages classified as "supplemental." In my judgment Congress should request written clarification from a responsible Administration official - either from NSC or FEMA - and not rely on verbal statements from subordinates.

2. In case of a major conflict, potential sources of manganese ore and/or ferromanganese would be Mexico, Australia, Brazil, Gabon, India and South Africa. All but Mexico involve overseas shipment. Obviously there can be no certainty that sealanes will remain open during a major conflict. This country also imports ferromanganese from France, Japan, and Norway. These countries obtain the ore they process from the same mining countries as do we and are subject to the same transport uncertainties. While Mexico may be considered a secure source, its production is less than 20% of our requirements. Not all its production is available to this country. Mexico has a steel industry of its own and has built up export sales to others. A further point is that manganese is not recycled to any significant extent, so that secondary sources are not a potential source - as they are in the case of other metals.

3. GSA continues to have manganese ore converted to ferromanganese under a program started before the White House release. The chief purpose is to maintain some ferromanganese domestic capacity rather than be entirely dependent on imports - as we are in the case of ore.

4. Domestic ferromanganese plants are fed either by conversion of stockpile ore or by new ore imports. If the domestic industry ceases to exist (and most of it has already gone) then in the event

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imports of ore and ferromanganese are cut off, the government would be faced with the task of reviving the high-cost domestic manganese mining industry and rehabilitating ferromanganese plants as well. Without ferromanganese there can be no steel industry.

5. Provided sealanes can be kept open, Australia, Brazil, Mexico and Gabon would continue to supply ore to the United States in a major conflict. India and South Africa might be counted on as well if their and our policies were compatible. In a U.S.-Soviet conflict India might choose to remain neutral. South Africa is faced with obvious uncertainties about its political future. Japan, France and Norway would ship ferromanganese to us provided (1) they are able to secure ore; (2) they remain accessible to the United States by ship; and (3) their internal requirements do not absorb their production. These uncertainties underscore the important insurance provided by the stockpile the country now holds. Why sell it?

6. Without a stockpile the possibility, if not the probability, exists that no manganese would be available for defense industry needs in a major conflict.

7. In the event of a cutoff of South African manganese the best prospects for increased supplies would be from Australia, Gabon and Brazil. Australia has some reserve capacity now. However, one must recognize that if South African supplies are cutoff, other major industrial countries would also be affected. A real scramble could ensue for manganese from the countries cited and they do not now have adequate reserve capacity to make up for the loss of South African supplies as South Africa is the largest manganese producer outside the Soviet Union. Brazil has potential reserves to justify expanding its capacity, but would probably expect buyers to make take-or-pay contracts for an extended period. It seems absurd to incur the liability for such added costs - not to mention delays and shipping uncertainties - when there is existing insurance in the form of the stockpile, for which payment has already been made.

8. Sale of 60,000 tons of lead annually from stockpiles would seriously depress the lead market. This market is already ailing because of the phasing out of lead-based gasoline additives and restrictions for health reasons on the use of lead-based pigments, lead solders, and lead pipes. Sale of 60,000 tons annually is equivalent to about 12% of current lead mine production from U.S. mines. It is difficult to separate out the influence of lead sales because of other variables affecting the market - the state of the economy, fluctuations in automobile-battery demand, and competition from imports, to name a few. In relation to U.S. consumption, 60,000 tons accounts for a larger share of the lead market than does the 3,000 tons of tin that GSA has been selling from stockpile account for domestic needs for tin. As is well known, the world's tin producers have been unhappy about those sales.

I trust that these responses will be found adequate. Kind regards,

Simon D. Strauss

November 22, 1[illegible]

Senator J. Bennett Johnston
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Senator Johnston:

This is my response to the questions submitted by you to supplement my testimony of November 14 before the Committee. Since I received your questions as an attachment to Senator McClure's letter of November 19, I am sending it along with my responses to his questions.

1. On the whole I feel present stockpile goals (as approved during the Carter Administration) are reasonable targets for a three-year supply of strategic minerals. The list omits some materials needed by high-technology industry. These should be added. The dollar amounts would be small. As for the President's proposed new stockpile goals, they appear definitely inadequate. As I testified, the omission of the platinum-group metals is a glaring example.

2. I doubt the need for new incentives for recycling and conservation. Where recycling is feasible, strong economic incentives now exist. Some materials do not lend themselves to recycling because of the way in which they are used. Thus recycling of manganese is extremely difficult, if not impossible in many applications. As for conservation, industry over the years has been able to increase units of production while reducing raw-material input. The downsizing of cars is a good example. To try to mandate conservation through regulation would be counter-productive because of the costly bureaucracy required. Encouraging conservation through subsidies would be costly.

3. Some nations (Sweden for example) have encouraged private stockpiling through tax incentives. Should the U.S. offer such incentives, in the current drive toward tax simplification they would doubtless be criticized as another corporate tax loophole. The present business climate is not conducive to private stockpiling because of heavy debt burdens and high interest costs. The stockpile the government now holds was acquired at prices well below present market. It is an asset that should be kept rather than be liquidated. Stockpile sales would tend to reduce prices, inhibit current production, and increase risks of shortages in some future emergency.

4. I perceive two areas in which federal support for research and development of new techniques for strategic minerals should be largely concentrated:

A. The Bureau of Mines and other agencies should continue working on processes to make economically feasible exploitation of low-grade or complex marginal domestic deposits of strategic minerals.

B. The military should continue efforts to reduce the quantities of materials required for given applications among defense weapons and support military equipment. They should continue to seek substitute commodities to replace commodities on which this nation is highly import dependent.

In other areas of research and development, the government should look primarily to private industry.

5. Despite limited familiarity with exploration of the outer continental shelf, my impression is that resources of the ocean deep are not likely to be exploited on a large scale over the balance of this century. Factors that are delaying such projects include huge capital requirements, erratic markets for the commodities to be produced, and inherent difficulties in extraction and transport. While production from these sources could eventually become an important part of peacetime supply, in wartime the mining and transport vessels would be vulnerable to attack by missiles, aircraft, and submarines. They could not be considered an assured source of materials in wartime.

6. Exploration of land-based resources tends to vary with the economic climate. A major concern to the mining industry has been the growing restrictions placed on access to much of the extensive, potentially mineral-rich territories in the public domain. Nevertheless, no peacetime shortages of most nonfuel minerals appears probable. Many resources have been identified both in this country and abroad that are as yet unexploited because of market considerations.

7. Foreign sources of supply have been generally available to the United States in peacetime. During the Korean War both China and the ~~United States~~ [illegible] placed restrictions on mineral exports to this country. Since then I'm unaware of any peacetime restrictions imposed by foreign governments, other than limitations on the shipment of scrap by certain industrialized countries. On the other hand, this country has deliberately imposed restrictions on its access to certain sources for political reasons. Cuban nickel and Rhodesian chrome are two examples. In both these instances production continued unabated as the countries found other markets. Hence, the efficacy of embargoes is highly questionable.

8. Recent events in South Africa, in my judgment, make it doubly important to maintain - and perhaps add to - stockpiles of those products of which South Africa is a major producer - notably chrome ore, manganese ore, and the platinum-group metals. To sell these commodities under the present sitaation of political

instability in that country would be a serious mistake. Further, the government should do what it can to facilitate implementation of a proposed project to produce platinum-group metals in Montana. A financially strong private-sector consortium is considering a project that might produce 5% of platinum and 10% of palladium requirements annually. The Montana environmentalist movement has in recent years acted to delay and if possible prevent new mining projects in that state. The federal government should make known to the local authorities the real national security interest that might be advanced by initiation of this project.

I trust that these responses will be found adequate. Kind regards,

Simon D. Strauss

Simon D. Strauss

January 23, 1986

Responses to questions posed by Senator Bingamon:

1. How to achieve stability in the strategic stockpile program.

I support the concept on which legislation introduced by Senator McClure was based - that stockpile goals should be linked to the proven extent of U.S. import dependence. Goals might be adjusted from time to time as degree of dependence alters, but the changes would be far less preciptate than has been the experience under the present system of goal determination. See statements made by Senator McClure in introducing legislation at previous sessions of the Congress.

2. Realistic goal for stockpiles.

For materials on which we are heavily import dependent a three-year goal is desirable since creation of domestic production potential based on low-grade high-cost domestic reserves or substitution of other materials are both time-consuming alternatives. For materials of which the U.S. is a substantial producer the goals should be the equivalent of one year's import requirements. For materials readily available from Canada or Mexico -- nickel, zinc, lead are examples - a two-year equivalent of imports.

3. Effect of the July 8 Presidential plan on copper in the short and long term.

Since the present holding of copper is minuscule and it is suggested it be held in the "supplemental reserve" the plan has no immediate effect on the copper market. However, by creating this somewhat absurd goal, the President's plan in effect means that there would be no prospect of stockpile purchases in the future. The U.S. normally consumes between 1,800,000 and 2,000,000 short tons of refined copper annually. Regardless of the war-time scenario devised by massaging various assumptions as to the rate of economic activity, I am extremely doubtful that copper consumption would be much less than that under conditions of full-scale conventional war. Domestic mine production is now reduced to 1,100,000 tons annually. Canada is a substantial producer but has internal requirements and would be called on by the United Kingdom to supply its requirements in war-time; hence only a small amount of copper would be available here. Hence I believe a stockpile goal of at least 600,000 short tons is desirable. Purchase of that amount would materially change tone of copper market and help domestic industry. However, this will not happen if Presidential plan is implemented.

Simon D. Strauss

Simon D. Strauss

QUESTIONS FOR PANEL I -- MR. ANDREWS, MR. STRAUSS AND MR. ARY

1. The new stockpile policy identifies two tiers of commodities, one being those identified as "stockpile goals" (or Tier I) and the other as a "supplemental reserve" (or Tier II). Tier I would be those commodities identified as not being available in sufficient quantities during a protracted conflict, thereby fulfilling the stockpile definition. Tier II, outside this definition, therefore has to be surplus to emergency requirements. As I read the White House release, misleading language implies that both Tier I and Tier II commodities make up the stockpile. Tier II is said to offer additional assurance against material shortages during a period of military conflict. The fact of the matter is that the commodities in Tier II are in temporary holding classification, and being surplus to stockpile goals means they will be sold following the sale of those now proposed as excess. The White House press release, more honestly, should have stated that since only $691 million worth of minerals are needed in the stockpile, all that remains (about $9.4 billion worth) eventually will go to the auction block. My question to the panel is this: Is there any other interpretation that can be applied to the proposed stockpile?

2. Manganese has been assigned a zero goal in the proposed stockpile. Tier II would contain about 870,000 tons and about 1 million tons would be determined excess. However, since the Tier II is also excess to the zero goals, we have to assume that all of the manganese in the present stockpile, sooner or laer, is to be sold. Until I hear differently, I can draw no other conclusion. Although we do not know the estimated quantities needed for a 3-year conflict, I assume that the quantities needed will be considerabley more than for a good year of steel production. Can any of you gentlemen provide me with information that adequate overseas supplies will be available to the U.S. in case of a major conflict?

3. On a related issue, why are we still converting manganese ore to ferromanganese if all manganese in the stockpile will sooner or later be declared excess?

4. The ore to ferromanganese conversion program was primarily to keep some part of the ferroalloy industry in business. If, however, there is no reason to convert any additional ore to ferromanganese for stockpile purposes, can anyone venture an opinion of what will happen to our ferromanganese industry?

5. Are there any thoughts on what foreign suppliers of manganese will guarantee us adequate quantities during a major conflict?

6. While the policy of South Africa is to continue to be a reliable supplier of minerals, no one can predict when or how long political developments may disrupt those supplies. In the past, if shortfalls in supply were serious enough, defense industry requirements could be met by stockpile releases. Looking ahead to when the stockpile goals would be cut to the bone and surplused sold off, would we

then, in the event of a serious shortfall as in a period of mobilization, be in a position to make the allocations necessary to meet defense industry needs?

7. I have heard that other supplier countries could increase their manganese capacity to supply the U.S. if our supplies from South Africa are cut off. Is there any assurance of this since when without knowing the length of a cutoff, the financial cost of adding new capacity would be extremely risky?

8. The lead market has been disastrously low over the last 4 years and the price continues to slide. Under the proposed stockpile goals, about half of the 600,000 tons of lead in the present stockpile would be determined excess and the other half placed on the so-called "supplemental reserve." The latter classification means that it would be sold off afterward. Spacing out sales of the excess lead over 5 years would add 60,000 tons/year to the market over the first 5 years followed by another 60,000 tons/year over the second five years. What would be the consequences of this huge quantity of excess lead in the market?

QUESTIONS FOR PANELS I & II

Submitted by Senator Johnston

FOR THE RECORD

General

(1) Do you think that current Stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

- Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

(2) Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

- To your knowledge, what efforts are now being made by industry in the conservation area?

(3) Do you believe the federal government should take steps to encourage private stockpiling?

- To your knowledge, is private stockpiling now occurring? If so, in which industries and in what amount?

(4) Do you see a need for additional federal support for research and development of new technologies for strategic minerals?

- If so, in what particular areas?

(5) Are you familiar with exploration efforts occurring in the outer continental shelf with respect to strategic minerals?

- If so, please describe.

- What are the prospects for recovery?

(6) What other exploration activities are occurring in the strategic minerals industries with which you are familiar?

(7) What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

(8) Do you think the recent events in South Africa should affect Stockpile policy?

- If so, how?

For Record
From Senator
Bingaman

Questions for Simon D. Strauss

1. You are obviously very familiar with the problems of critical and strategic minerals. And as your testimony indicates, you understand the problems facing the domestic copper industry. Based on your knowledge, please tell the Committee how we can bring some stability to the stockpile program?

2. What do you think a realistic goal for copper in the stockpile should be?

3. What effect do you think the President's plan will have on the domestic copper industry, both in the short and long term?

[illegible]

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December 23, 1985

The Honorable James A. McClure
Chairman
Committee on Energy and Natural Resources
361 Senate Dirksen Office Building
Washington, D.C. 20510

Re: Oversight of National Defense Stockpile Policy

Dear Mr. Chairman:

On behalf of the Specialty Steel Industry of the United States, we are writing to respond to additional questions submitted in connection with the above-referenced hearing. These responses supplement the testimony of Mr. Paul Roedel, Chairman of the Specialty Steel Industry's Advisory Committee.

The written questions were submitted to the witnesses by Senator Johnston. Each will be answered in turn with primary attention to two materials of importance to the Specialty Steel Industry: chromium and cobalt. It should be noted that manganese and columbium are also important to the industry.

I. Adequacy of Stockpile Goals

The stockpile goals previously developed by the Federal Emergency Management Agency did, to our knowledge, target quantities that fulfilled three-year needs under assumed wartime conditions. The President's July 8 stockpile policy is largely undefined, and firm conclusions are not possible without more details. Nevertheless, the announcement itself appears to indicate that the stockpile itself (not including the supplemental reserve) is intended to contain a one-year supply in peacetime circumstances.

As indicated in Mr. Roedel's testimony, the President's stockpile goals — including the supplemental reserve — appears to exceed one year's supply of chromium and cobalt at normal consumption levels. The chromium stockpile, including the supplemental reserve, appears to exceed three years' supply at normal consumption levels. The Specialty Steel Industry is uncertain as to the role of the supplemental reserve, and urge its clarification. Moreover, the Specialty Steel Industry notes that the form and quality of the materials in the stockpile are often as important as the quantity. Chromium and manganese, for example, practically cannot be utilized in one of its major applications — stainless steel — without being reduced into ferroalloys.

2. Strategic Minerals Recycling and Conservation

In general, recycling and conservation of strategic minerals are laudable objectives, and conservation measures are in fact being encouraged by competitive conditions. A vibrant recycling market now exists in chromium. The chromium in stainless steel scrap — whether generated internally from grinding fines or even dust or generated externally from scrap dealers — can be and is used in the production of stainless steel. The use of coatings on certain specialty grades (known often as clad-metals) achieves certain desired properties through the coating and thus conserves alloying elements that would be needed otherwise. Perhaps more direct conservation gains have been achieved through the use of computers in controlling melts; more precise control allows the consumption of less alloys to meet content specifications. These and other conservation measures are being adopted by members of the Specialty Steel Industry as a result of competitive forces without government incentives.

Government incentives might encourage these and prompt other conservation efforts. Care must be taken, however, to insure that any government-induced recycling or conservation efforts do not affect essential production or hinder the competitiveness of U.S. industries. In that event, steps to encourage recycling and conservation will prove counterproductive.

3. Private Stockpiling

The concept of private stockpiling has the attraction of maintaining stockpiles at the location of ultimate use and in the form needed for the strategic material's application. Nevertheless, requiring private companies to maintain stockpiles may place inappropriate burdens on industry depending on the nature of the requirement. Aside from occasional inventories established to hedge market conditions or uncertainty of supply, to our knowledge private stockpiling does not occur in the specialty steel industry with respect to chromium and cobalt.

4. Research and Development Support

The Specialty Steel Industry — which has devoted substantial resources to technological and metallurgical advancements — supports the allocation of federal resources to research and development in the strategic minerals field. Deposits of many strategic materials are located in unstable regions of the world. The development of substitutes, particularly commercially-feasible substitutes, consequently should be the primary focus of research and development activities.

5. OCS Exploration

The Specialty Steel Industry is not engaged in, and is unfamiliar with, any efforts to explore the outer continental shelf with respect to strategic materials.

6. Other Exploration

The Specialty Steel Industry is not engaged in, and is unfamiliar with, exploration for domestic deposits of strategic materials. Domestic deposits of chromium and cobalt have proven generally uneconomical in competition with richer and larger foreign deposits.

7. Security of Foreign Sources

As stated in Mr. Roedel's testimony, a major source of concern to the Specialty Steel Industry is the political and economic stability of key regions of the world producing alloying agents like chromium and cobalt. The world's reserves of chromium lie predominantly in South Africa, with other significant deposits located only in Zimbabwe and the Soviet Union. Although cobalt has a wider distribution than chromium, a crisis in certain regions of the world could cause very serious dislocations in cobalt supplies while new sources were identified and developed. Low phosphorous manganese ore — which is key to stainless steel production — is available only in South Africa.

Any stockpile policy should recognize the potential of dislocations in supply and account for such potential in determining both short-run and long-run needs. Moreover, the policy should be dynamic in its reaction to changing political and economic conditions.

8. South Africa

See response to question (7) supra.

* * *

We hope that these responses prove helpful in the Committee's deliberations. The Specialty Steel Industry remains available to respond to further inquiries should the Committee so desire.

Very truly yours,

David A. Hartquist

DAVID A. HARTQUIST
ROBERT L. MEUSER
Attorneys for the Specialty
Steel Industry of the United States

/auj

RESPONSES FROM MR. T.S. ARY,

KERR_McGEE CORPORATION

3-6-86

SENATOR MCCLURE SUPPLEMENTAL QUESTIONS

Question 1

I think the Tier II designation was an after thought of the study group. It is my opinion that the study group considers the majority of the stockpile will be sold. There may be about one billion dollars of materials remaining in the stockpile under their original study. It is already a part of the stockpile so I do not understand the need of Tier I and Tier II classifications.

Question 2

In my past experiences involving manganese (over 30 years), I can state there are adequate reserves throughout the world to satisfy the U.S. requirements, but ONLY if they can safely reach the U.S.

The resources in Gabon, South Africa, Turkey, Brazil, Australia and India are all at the far end of the transportation chain. There is little chance the U.S. can control the shipping lanes early in a conflict; we could not during World War II when it was said that our navy controlled the seas. At this time we concede the USSR controls the sea with its superior sub fleet. The only manganese available to the U.S. might be the poor quality ore from Mexico. If the stockpile is maintained, it will buy us some time in which we may gain control of the shipping lanes.

Question 3

It is my opinion that the Administration knows we will need ferro-manganese and wants to convert it before the "ore" is put up for sale. If converted they can argue to hold it for strategic purposes due to the recent conversion costs.

Question 4

Our ferro-manganese business has almost all moved offshore. If we continue to place so many obstacles before the ferro-alloy business, it too will move off shore.

Question 5

I am of the opinion that foreign suppliers can supply needed requirements FOB their Mines. Transportation will be the responsibility of the purchaser. It has been my experience that the suppliers will charge a premium price when the ore is in demand. If the stockpile is maintained, we will have access to a lower price per unit manganese. Plus we will gain lead time if the material is needed.

Question 6

If we do not maintain the stockpile, we will not be able in the early stages of an emergency, to acquire or make-up the requirements to meet industry needs. Our suppliers would be able to mine, but we would be unable to get the material to our U.S. plants.

Question 7

I question if we could make-up the loss of the South Africa production.

Most ore deposits have an optimum capacity. When feasibility studies are prepared, the optimum capacity is scheduled and built. The lag time to increase, the capacity of an operation could be from 3-7 years depending upon capital availability and equipment availability. I do not think existing producers could increase their production timely to pick up the lost production of South Africa.

Question 8

The sale of ANY lead from ANY source at this time in the quantity of 60,000 tons per year would kill the market. There is not that much market to start with. This amount of excess quantity would be the death knell to the lead industry of the U.S.

SENATOR JOHNSON QUESTIONS

Question 1

The current stockpile goals are adequate for many of the strategic minerals required.

The Administration's proposed goals would not provide an adequate supply. They will in effect have a "zero" goal.

I prefer a formula to establish the goals. Maybe a rolling 3-5 year average import amount being set as the goal for a specific commodity. Congress should be a part of the goal setting structure.

This is especially true for those materials which we do not mine in the U.S. ie., chrome-cobalt-manganese-platinum, germanium, tin and columbium.

Question 2

Yes, it is very important to recycle & reprocess spent or used material. This is especially true when the transportation costs from the mine to the U.S. is so high.

There is a considerable amount of reclaiming going on within the U.S. at the present time. There is a tight market in reprocessing catalysts from the refinery industry. The same is true in other industries.

Question 3

Yes, I have always considered the inventory of feedstock as a form of stockpiling. Most industries contain adequate inventories for their business based upon several factors, ie., requirements, availability, seasons of the year etc.

I do not know of any U.S. industries which operate their inventories as do the Japanese. They often maintain a 2-3 year supply on hand at all times.

Question 4

I feel the U. S. Bureau of Mines should increase their R & D effort in the area of the recovery of products from complex ores found in the U.S.

Their ongoing programs of metallurgical R & D, process metallurgy and reclaiming of spent and used materials should continue.

Their mining R & D is very important to the equipment manufacturers and to the mining industry.

Question 5

Yes, I was Chairman of the American Mining Congress Marine Minerals Committee and a member of the Advisory Committee to the U.S. Task Force of the United Nations Law of the Sea Delegation.

The prospects of producing strategic minerals and materials from the sea floor is 15 to 20 years away. That may be a conservative estimate. I have been active in this area for over 20 years and we have not made that much progress. I would not want to tie any stockpile study to the possibility of sea floor minerals.

After the Mineral Policy and Stockpile questions are addressed, we should turn to the International Trade and International Lending policies. We are in serious need to revisit those areas. They are very serious items and need to be brought under control.

Question 6

There has been a continuing exploration effort by these companies involved with strategic minerals. I have been active over 30 years searching for manganese, chrome, germanium, uranium tungsten, vanadium, columbium and fluorite.

The effort and expenditures have varied as the profits permitted, but the effort has always been there. We are now looking at one of the lowest points over the last 50 years. The Exploration effort is very small and almost to the point of extinction.

Question 7

The U.S. should establish a firm, meaningful and effective mineral policy. The appointment of the critical materials council is a good first stop. The stockpile issue should be addressed in a rational manner. Goals should be established with the assistance of the Department of Defense, the Executive Congress and the Industry. The management of the stockpile should also be addressed. I am in favor of establishing the management so the stockpile operations is removed from the budget section of the administration.

Question 8

South Africa controls the majority of the strategic and critical minerals upon which the U.S. is dependent. This control is through its production, geographic position and control of the transportation for the majority of southern African countries.

The following list shows the mineral and the import dependency of the U.S. from southern Africa and other sources.

Mineral	%	Other Source
Manganese	99%	Brazil-Australia
Chromium	85%	USSR, Turkey, Phillipines
Cobalt	85%	Canada, Finland
Platinum Group	80%	USSR
Vanadium	25%	USSR, Chile

Southern Africa area controls:

85% of the worlds chrome

86% of the worlds platinum

54% of the worlds vanadium

53% of the worlds manganese

52% of the worlds cobalt

From these figures, you can see how important Southern Africa is to our industria effort. Without manganese, chrome, cobalt, vanadium and platinum, the U.S. coul not maintain an industrial sector. These materials are the basis of what we call our industrial complex.

There should be an adequate stockpile policy to provide these basic and othe necessary minerals and materials for the needs of industry during a time of national emergency. Without these, it will be impossible for industry to suppl the military and civilian needs, both during peace-time and during an emergency.

OFFICIAL COMMITTEE FILE
PLEASE RETURN

BRUSHWELLMAN
ENGINEERED MATERIALS

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SENATE COMMITTEE ON
ENERGY AND NATURAL RESOURCES
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WASHINGTON D.C. 20510

NOV 25 '85

November 22, 1985

The Honorable James A. McClure
Chairman, United States Senate Committee
on Energy and Natural Resources
Washington, DC 20510

Dear Senator McClure:

Attached in response to your letter of November 19, 1985 are answers to the additional questions posed in writing by the Committee. Although Senator Johnson's questions are quite broad in scope we believe as expert witnesses on beryllium we should confine our answers to beryllium specifically and have so done.

We appreciate the opportunity afforded Brush Wellman to present its views to the Committee and we would be happy to assist the Committee in any way in its future deliberations on these issues.

Sincerely,

Martin Powers

Martin B. Powers
Vice President
Administration

MBP:ls

Attachments

QUESTIONS FOR BRUSH WELLMAN

1. In your Enclosure #1 on page 3 of your written testimony, you refer to an "instrument grade" of beryllium. Can you elaborate on this?

   The 60 tons of beryllium billets in the Stockpile conform to a general purpose specification which was designed to meet the requirements of most Department of Defense and Department of Energy applications. However, a number of critical parts in several Defense Department systems require a higher performance material which conforms to an "instrument grade" specification. To date no "instrument grade" material has been included in the Stockpile.

2. In your prepared testimony, you say beryllium is essential to many national defense programs. Do we infer that there is no other material that can be substituted for beryllium in these applications?

   Because it has a unique combination of properties, beryllium is the ideal material for these applications. Substitution would involve a degradation of performance that would be undesirable at best and unacceptable at worst. These systems were designed for beryllium and any substitution would require redesign and subsequent testing which would take time and money. Further, in the case of nuclear applications, testing is forbidden by treaty.

3. In your prepared testimony, you propose that the 229 tons of vacuum cast beryllium be converted to a usable form of material. How would that be done, how long would it take and how much beryllium in usable form would that produce?

   The 229 tons of vacuum cast beryllium would be remelted and blended with other beryllium to optimize chemistry, then converted to powder and consolidated into billets similar to the 60 tons produced for the Stockpile in the past two years.

   The project would take 4 to 6 years depending on production schedules.

   We estimate the final product would be 190 to 200 tons of usable beryllium billets.

MBP:ls
11/22/85

QUESTIONS FOR PANELS I AND II
SUBMITTED BY SENATOR JOHNSON

FOR THE RECORD

Brush Wellman testimony before the Committee was based upon its expertise on beryllium and in keeping with that perspective we have answered the following questions in the context of beryllium only.

General

1. Do you think that current Stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

   The current Stockpile goal for beryllium of 400 tons would, in our opinion, provide such a supply it it were in usable form. At present, 229 tons are not usable.

   Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

   No.

2. Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

   Yes.

   To your knowledge, what efforts are now being made by industry in the conservation area?

   The high intrinsic value of beryllium makes it economically attractive to recycle and we believe all usable beryllium is recycled except for small quantities of scrap that are exported. Closing that gap would assure full utilization of available beryllium.

3. Do you believe the federal government should take steps to encourage private stockpiling?

   No.

   To your knowledge, is private stockpiling now occurring?

   Not in beryllium.

   If so, in which industries and in what amount?

   Not applicable.

4. Do you see a need for additional federal support for research and development of new technologies for strategic minerals?

   Not for beryllium.

   If so, in what particular areas?

   Not applicable.

5. Are you familiar with exploration efforts occurring in the outer continental shelf with respect to strategic minerals?

   Not for beryllium.

   What are the prospects for recovery?

   Not applicable.

6. What other exploration activities are occurring in the strategic minerals industries with which you are familiar?

   A number of exploration programs on beryllium-containing minerals are underway in both North and South America.

7. What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

   Not applicable to beryllium.

8. Do you think the recent events in South Africa should affect Stockpile policy?

   Not applicable to beryllium.

   If so, how?

   Not applicable.

MBP:ls
11/22/85

Calista Corporation
516 Denali Street Anchorage Alaska 99501 (907) 279-5516

December 20, 1985

Senator James A. McClure, Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Senator McClure:

Please find listed below my written response to the additional questions for the November 8, 1985 oversight hearing regarding the President's July 8th National Defense Stockpile "Modernization" Proposal. I want to thank you and your committee for allowing me to offer testimony concerning this issue.

The Calista Corporation recognizes the importance of a domestic strategic minerals resource base and we look forward to the challenge of mineral development in the Goodnews platinum district. Calista believes our efforts will ultimately provide the United States with a secure, domestic platinum group metals resource base.

QUESTIONS FOR PANEL III

Submitted by Senator Johnston

FOR THE RECORD

General

1. Do you think current Stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

    - Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

ANSWER: No to both questions, and without an adequate strategic stockpile, the U.S. economy is vulnerable to a disruption of foreign mineral production and/or a resource cartel.

2. Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

    - What efforts are now being made in the conservation area?

ANSWER: Yes, but for example, recycling will not supply enough platinum group metals (PGM) to off-set the adverse economic impact of the loss of South Africa as the United States primary PGM source. It is more practical to maintain a three year strategic stockpile of PGM and to encourage domestic exploration and the development of a U.S. PGM resource base.

3. Do you believe the Federal government should take steps to encourage private stockpiling?

   - Is private stockpiling occurring in your industry?

ANSWER: A certain amount of metal stockpiling presently occurs because of market speculation, but it is not economic for industrial consumers to acquire large stockpiles.

4. Do you see a need for additional Federal support for research and development of new technologies for strategic minerals?

ANSWER: Yes, but more importantly, the U.S. Government must actively support domestic resource exploration by private industry. "Grass roots" exploration projects for platinum group metals are high cost, high risk ventures that most companies are not willing to consider. This is especially true in Alaska with its short field season, lack of infrastructure and the higher cost for mine development in an arctic climate.

A modern industrial/technological society with a high living standard can ill afford to be critically dependent on foreign sources of strategic minerals. I recommend a partnership between the Federal government and private industry to work together to develop a domestic strategic minerals resource base.

   - What research and development is occurring in your industry to improve the stability of our supply of strategic minerals?

ANSWER: The Calista Corporation currently invests $200,000/year in strategic and precious metals exploration programs in southwest Alaska. However, this level of expenditure is only sufficient to conduct site specific geologic and geochemical surveys and does not include geophysical or core drilling programs. Our objective has been to upgrade our geotechnical data base so we can market joint venture proposals to the U.S. minerals industry and secure additional exploration funds. To date, there has been very little interest in Calista's joint venture proposals. Most mining companies report they are unable to bear the excessive costs of Alaskan exploration projects, even though the mineral potential is attractive.

The Goodnews Bay platinum district, which has a historic production of 500,000 ounces of platinum group metals (PGM), lies within the Calista Region. We believe this district has excellent potential for the discovery of very large, low grade PGM lode deposits and small, high grade PGM placer deposits. This district has not been explored using modern geologic concepts and exploration technology. Calista is optimistic that our Goodnews exploration project will ultimately reward us with the discovery of an economically viable PGM deposit that will help alleviate the United States' dependence on South Africa for platinum group metals.

5. Is any exploration occurring in the outer continental shelf with respect to the platinum group metals?

   - If so, please describe.

ANSWER: To my knowledge, there is very little exploration for strategic minerals on the outer shelf by private industry. This is because of the large investments required for ocean floor exploration. I have been informed by our exploration geologist that there is considerable potential for off-shore platinum group metals placer deposits in the Goodnews Bay region. The exploration target would be submerged beach sand deposits that developed during Pleistocene glaciation when the ocean level was lower than at present. Because of the complex geology and high cost of offshore exploration, Calista has not pursued this exploration target.

6. What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

ANSWER: There is very little we can do to secure foreign mineral sources short of military intervention.

7. Do you think the recent events in South Africa should affect Stockpile policy?

ANSWER: Yes, South Africa is a major supplier of several strategic minerals to the U.S. and they have deep domestic problems with no solutions on the horizon. The United States should maintain an adequate strategic stockpile to serve as a buffer against the sudden loss of South Africa's mineral resource production. More importantly, the U.S. Congress must formulate an enlightened domestic resource policy which should include financial support for research into all fields of mineral exploration/development. An economically sound, technologically sophisticated domestic resource industry is our best insurance against disruption of foreign mineral supplies.

8. The U.S.S.R. and South Africa account for over 90 percent of world platinum group metals production. I understand that the Stillwater complex in Montana could substantially increase our capacity to obtain platinum group metals domestically. What is the status of the Stillwater project?

ANSWER: The proven reserves at Stillwater are small and consist mostly of palladium, however, the area does have considerable potential to expand these reserves. I want to point out that platinum and iridium were the two most abundant platinum group metals recovered from the Goodnews Bay placer mines. These two metals are of more strategic importance than palladium, the primary product of Stillwater. It is Calista's position that the Goodnews platinum district is of strategic importance to the United States, and we are hopeful that the Federal Government will support Calista's exploration projects in the Goodnews region.

9. What conservation measures can be taken to reduce import vulnerability in platinum group metals?

ANSWER: Any worthy conservation measure should be given serious consideration. Mineral resources are of great value to industrial societies with a high standard of living. They should not be wasted.

10. Is it possible to recycle scraps?

ANSWER: Yes, and many metals are recovered by recycling.

11. Are there substitution opportunities for platinum group metals?

ANSWER: For certain industrial applications, no. This area of interest needs more research, not only for substitutions but also for the improved efficiency of industrial uses.

Sincerely,

CALISTA CORPORATION

Nelson N. Angapak
President

NNA:slb

cc: Senator Murkowski
Senator Stevens
Congressman Young

Chevron

Chevron Resources Company
A Division of Chevron Industries, Inc
595 Market Street, San Francisco, California
Mail Address: P.O. Box 7147, San Francisco, CA 94120-7147

R.E. Daniel
President

December 3, 1985

Senator James A. McClure
United States Senate
Washington D. C. 20510

Dear Senator McClure:

Enclosed herewith are my responses to those additional questions you submitted following my testimony at the November 14 oversight hearing on the President's July 8th National Defense Stockpile "modernization" proposal.

Thank you for the opportunity to provide our comments on this important issue.

Sincerely,

Enclosure

QUESTIONS FOR MR. DANIEL, CHEVRON RESOURCES

1. With the threat of the Federal Government selling off the platinum, palladium, and iridium from the stockpile and the depressing effect that such sales will certainly have on the market, your tentative decision to proceed with development of the Stillwater mine may have to be delayed again. Is this correct?

   Answer: Yes. If palladium and platinum prices do not improve or are depressed further by Federal Government sales of these metals, we would certainly be forced to reconsider our development decision.

2. With present platinum and palladium prices below their averages for the last 5 years, and potential stockpile sales that might span another 5 years further depressing the market, could this mean that your joint venture might have to pull back completely from possible development?

   Answer: Yes. Long term depressed prices for these metals could force the Stillwater project partners to abandon the current development plans.

3. This then means that this country would not benefit from the wealth extracted from this important mineral deposit which in effect becomes a valueless resource. Would you agree?

   Answer: Yes. The platinum and palladium metals at Stillwater only have value after they are mined and processed into the metals.

4. If a national emergency would then occur and it took several years for your joint venture companies to move back to the site to develop it and begin production (providing of course that you were allocated the equipment and other supplies in wartime), how long would it take to produce and refine significant quantities needed for industrial mobilization?

   Answer: If we assume that all federal and state environmental permitting requirements were suspended because of the national emergency, we estimate that it would take from 3 to 5 years to produce significant quantities needed for industrial mobilization. In a wartime situation there would remain a question as to where the ore produced from a Stillwater mine could be smelted and refined.

5. I have heard that the search for the Stillwater platinum deposit and the exploration that followed covered a period of about 18 years. Total project costs may range $30-$50 million. If after these costs, the joint partners pull back from a decision for development because of low prices, will your mining claims remain valid?

   Answer: The mining claims held by Stillwater Mining Company would remain valid as long as the annual assessment work is done on this claim group. We do not expect that the partners would abandon these claims unless there was little or no hope that the project would ever be viable.

6. Assuming that the zero stockpile goal for PGM rests in part on development of the Stillwater, the decision to sell what we have could, in fact reduce the chances of development during the next 5 years or so, which defeats the zero goal determination in the first place. Does that reasoning track with you?

   Answer: Yes. This is exactly the point we were making in our testimony.

7. While I do not know the quantities of platinum group metals we may need in a 3-year war, at some point ahead the situation may be this: We have zero quantities in the stockpile; We cannot afford to rely on South Africa, which now supplies 60% of U.S. needs, in wartime; and We cannot expect supplies from the Soviet Union. What then are our supply sources?

   Answer: There are no known alternate supply sources that could meet an expected wartime demand. While the use of automobile catalytic converters could be suspended and recycling efforts expanded, its unlikely that the wartime demand for these metals could be met from these sources. An ongoing mine at Stillwater could expand production relatively rapidly in a wartime situation but would still not likely be able to meet the expected critical demand in the early months of the war.

QUESTIONS FOR PANEL III
Submitted by Senator Johnston
FOR THE RECORD

GENERAL

1. Do you think that current stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

   - Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

   Answer: The current Stockpile goals for platinum and palladium are not adequate to provide a three-year supply of these metals at the present domestic demand levels. The President's new goal is to reduce the stockpile of palladium and platinum to zero which obviously is not adequate to provide a three-year supply.

2. Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

   - What efforts are now being made in the conservation area?

   Answer: The best incentives for recycling and conservation is high prices. Dumping the existing stockpiled metals on the market would have the effect of lowering prices and lower prices would not encourage recycling or conservation.

3. Do you believe the federal government should take steps to encourage private stockpiling?

   - Is private stockpiling occurring in your industry?

   Answer: We have no knowledge as to whether or not "private stockpiling" of platinum and palladium is occurring and have no opinion as to whether or not this practice ought to be encouraged.

4. Do you see a need for additional federal support for research and development of new technologies for strategic minerals?

   - What research and development is occurring in your industry to improve the stability of our supply of strategic minerals?

   Answer: We and our partners in Stillwater Mining Company are making a substantial investment in exploring and developing the platinum and palladium mineralization of the Stillwater Complex which, if economically justifiable, will be developed into a significant domestic supply of these two strategic minerals. We do not see a need for additional federally supported research and development for strategic minerals.

5. Is any exploration occurring in the outer continental shelf with respect to the platinum group metals?

   - If so, please describe.

     Answer: Our company is not currently involved in any outer continental shelf exploration for the platinum group metals.

6. What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

   Answer: Support, or at least not impede, the development of domestic supplies to reduce our dependence on foreign sources.

7. Do you think the recent events in South Africa should affect Stockpile policy?

   Answer: We have no position on this question.

8. The U.S.S.R. and South Africa account for over 90 percent of world platinum group metals production. I understand that the Stillwater complex in Montana could substantially increase our capacity to obtain platinum group metals domestically. What is the status of the Stillwater project?

   - How would the President's proposal affect the Stillwater project?

     Answer: As I stated in my testimony, Stillwater Mining Company has made the decision to start mine development at this time and be in commercial production with a relatively small mine in 1987. The President's proposal to sell the platinum and palladium metals in the National Defense Stockpile over the next 5 years would likely result in the continuation of the currently depressed prices for these metals. The continuation of depressed prices for platinum and palladium could well bring about the cancellation of our development plans.

9. What conservation measures can be taken to reduce import vulnerability in platinum group metals?

   Answer: The most effective conservation measure would be to not do anything which would have the effect of reducing PGM prices further. High prices force conservation.

10. Is it possible to recycle scrap?

    Answer: We understand it is possible to obtain PGM's from recycling scrap catalytic converters.

11. Are there substitution opportunities for platinum group metals?

    Answer: We understand that there are limited substitution opportunities for PGM's.

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PLACER U.S. INC.

January 7, 1986

The Honorable James A. McClure
United States Senate
Chairman, Committee on Energy and
Natural Resources
Washington, D.C. 20510

Dear Senator McClure:

In response to the written questions submitted by your committee, the following is provided:

Question 1 (From Senator Hecht)

MR. BOTTS, BESIDES THE PRICE OF A COMMODITY, WHAT ARE THE TERMS OF GSA SALES OF STOCKPILE SURPLUS? ARE THE TERMS OF GSA'S SALES COMPARABLE TO THOSE IN THE PRIVATE SECTOR?

Answer

GSA mercury bid awards require only a small deposit on award and the material may be left in GSA warehouses at no charge for a period of up to 180 days. Private sector mercury transactions generally require cash on delivery. These exceptionally favorable GSA terms have the effect of providing substantial additional discounts to those individuals or firms wishing to speculate in the U.S. mercury market.

Question 2 (From Senator Hecht)

YOU STATE THAT McDERMITT MINE IS THE ONLY MAJOR PRODUCER OF MERCURY IN THE WESTERN HEMISPHERE, YET YOUR FIRM WAS NOT CONSULTED IN CONNECTION WITH STOCKPILE GOALS FOR MERCURY. DO YOU FEEL YOU HAVE INFORMATION OR EXPERTISE THAT WOULD BE USEFUL IN EVALUATING THE COUNTRY'S NEEDS FOR MERCURY IN AN EMERGENCY?

Answer

Yes, we do believe that we have considerable information regarding both consumption and production of mercury in the U.S. In a recent U.S. Bureau of Mines study regarding mercury availability in the market economy countries, our firm provided

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technical assistance to bureau personnel.

Question 3 (From Senator Hecht)

WHAT HAS BEEN THE EFFECT ON THE McDERMITT, NEVADA AREA OF THE LOW MERCURY STOCKPILE GOAL AND GSA SALES OF MERCURY NOW DEEMED SURPLUS TO THE STOCKPILE?

Answer

The large quantities of mercury offered by the GSA and their frequent acceptance of below market bids have continued to depress the U.S. mercury market. Needless to say, this condition has had a considerable effect on the small town of McDermitt, Nevada. In the past year, McDermitt Mine has reduced it's production by over 40% and reduced it's personnel by over 30%.

Question 1 (From Senator Johnston)

DO YOU THINK THAT CURRENT STOCKPILE GOALS ARE ADEQUATE TO PROVIDE A THREE-YEAR SUPPLY OF STRATEGIC MINERALS, AS REQUIRED BY LAW? ARE THE PRESIDENT'S NEW PROPOSED STOCKPILE GOALS ADEQUATE, IN YOUR OPINION, TO PROVIDE A THREE-YEAR SUPPLY?

Answer

The current stockpile goal is totally inadequate to provide a one year supply. The President's proposal of a zero mercury goal obviously will not meet any mercury supply requirement.

Question 2 (From Senator Johnston)

DO YOU THINK A PART OF OUR STOCKPILE POLICY SHOULD BE TO PROVIDE INCENTIVES TO RECYCLE AND CONSERVE STRATEGIC MINERALS? TO YOUR KNOWLEDGE, WHAT EFFORTS ARE NOW BEING MADE IN THE CONSERVATION AREA?

Answer

Yes, our firm would favor extensive recycling of mercury. Unfortunately, some environmental regulations and a trend towards unlimited environmental litigation tends to discourage this type of activity. For reasons other than conservation, the U.S. consumption of mercury has declined nearly 50% over the past fifteen years. We know of no cost-effective substitutes for the present uses of mercury.

Question 3 (From Senator Johnston)

WHAT DO YOU THINK THE U.S. GOVERNMENT SHOULD BE DOING TO MAKE FOREIGN SOURCES OF SUPPLY MORE SECURE?

Answer

Outside of assisting governments who produce strategic materials to remain stable and secure, I cannot think of any other activities to secure supplies. Our best defense is a three-year supply of strategic minerals located on U.S. soil.

Question 4 (From Senator Johnston)

DO YOU THINK RECENT EVENTS IN SOUTH AFRICA SHOULD AFFECT STOCKPILE POLICY?

Answer

No, our policy should continue to be the maintenance of a three-year supply of strategic materials under direct U.S. control. The events in South Africa only illustrate our vulnerability in depending on foreign sources of strategic materials.

Question 1 (Direct to Mr. Botts from Senator Johnston)

DO YOU BELIEVE THE FEDERAL GOVERNMENT SHOULD TAKE STEPS TO ENCOURAGE PRIVATE STOCKPILING? IS PRIVATE STOCKPILING OCCURING IN YOUR INDUSTRY?

Answer

At first glance, it would seem, to me, unwise to designate any strategic stockpile functions to private industry. Since national defense is a concern for all the country, it would seem an appropriate matter for the federal government. Other than normal dealer and producer mercury stock, we do not know of any industry stockpiling.

Question 2 (Direct to Mr. Botts from Senator Johnston)

DO YOU SEE A NEED FOR ADDITIONAL FEDERAL SUPPORT FOR RESEARCH AND DEVELOPMENT OF NEW TECHNOLOGIES FOR STRATEGIC MINERALS? WHAT RESEARCH AND DEVELOPMENT IS OCCURING IN YOUR INDUSTRY TO IMPROVE THE STABILITY OF OUR SUPPLY OF STRATEGIC MINERALS?

Answer

Two government agencies presently provide broad research and development support for the mining industry. We would urge continued adequate funding for the U.S. Geological Survey and the U.S. Bureau of Mines. Additional federal support to various mining colleges and universities could also assist in the development of new technologies for strategic minerals. Considerable research and development does occur within the mining industry. The fact that a U.S. mining industry still exists in spite of costly environmental regulation and intense foreign competition indicates our ability to develop and apply new technologies to the mining and processing of various mineral deposits. Our own firm constantly investigates new technologies which may have the potential to allow the mining and processing of very low grade mercury ores. In addition, we have expended considerable effort in the development of processing methods for the recycle of mercury bearing wastes.

We appreciate this opportunity to respond to the written questions of the committee. Should we be able to provide additional information or testimony to assist the committee in it's nationally important task, please let us know.

Yours truly,

V. V Botts

V.V. Botts
Manager, Nevada Operations
Placer U.S. Inc.

cc: R.L. BARRETT
M.N. McCARTY - McCARTY, NOONE & WILLIAMS
C.E. McFARLAND
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November 23, 1985

Hon. James A. McClure, Chairman
Senate Committee on Energy and Natural Resources
Senate Dirksen Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter of November 19 and your generous remarks. I would be happy to answer for the record the questions attached to your letter. I will respond in the order given.

Questions for both Panel IV witnesses (1) No, I do not think the present stockpile goals are adequate. It was time for a review of these goals, material by material. I suspect that some materials may no longer be strategic and critical. In consequence new goals totaling five or seven billion dollars would not have surprised me. But the President's new goals, totaling $700,000, clearly are not adequate for the requirements of a three year war. I have the feeling that these goals were proposed to meet budget requirements, not standby materials requirements. Platinum group metals have always been of highest priority. The Defense Logistics Agency of DOD still has orders to deliver surpluses of such metals, derived from scrap, to the National Stockpile, rather than selling it into the market.

(2) Yes, recycling and conservation should be part of our stockpile policy. The issues are when and how achieved. I would encourage recycling in wartime, but allow the market to determine that in peacetime. I would encourage conservation in peacetime. For example, I oppose sale of crude oil from the Naval Petroleum Reserve, beyond the amount which is used to finance the purchase of other strategic materials for stockpiling. Locking up materials in the stockpile for release in time of war is the only conservation effort of which I am aware.

(3) The foreign policy of the United States should take into account the needs of our economy for scarce materials. The importance of human rights in such countries as South Africa should not prevent consideration of the security needs of the United States

(4) Yes. Certain materials like platinum group and chrome come mostly from South Africa and USSR. The goals for such materials should be raised not lowered. Regular reviews of stockpile goals should take account of foreign political developments.

Questions for Mr. Pendleton - The former barter program worked. Agricultural surpluses were exported. Valuable strategic and other materials were acquired in exchange by the United States. Storage charges for agricultural commodities were cut. Losses through spoilage of agricultural stocks were cut. To my knowledge no major criticism of the barter program was ever established.

ANDERSON & PENDLETON
CHARTERED ATTORNEYS

- Yes, I am familiar with S.42 and H.R.1766.

- S.42 - This is good legislation, intended to strengthen existing barter authority. I support the emphasis on using private trading firms, the restoration of multilateral barter, a solution to reimbursing the Commodity Credit Corporation. I question the establishment of a White House office to coordinate barter. The purpose of that office should be to promote barter. So long as the Administration opposes barter, there will be no barter to coordinate.

- H.R.1766 - I support the concept of a pilot program as a way to renew barter. However, I would strike from the first paragraph of the bill the words: "...and for which national stockpile or reserve goals established by law are unmet." For reasons set forth in my testimony before the Committee, I believe that it will be easier to revive barter for a supplemental stockpile than for the currently controversial National Defense Stockpile.

Mr. Chairman, thank you for the opportunity to present my views regarding these very important questions.

Cordially yours,

E. Pendleton

Edmund Pendleton

QUESTIONS FOR PANEL IV

Submitted by Senator Johnston

FOR THE RECORD

For Both Witnesses

(1) Do you think that current Stockpile goals are adequate to provide a three-year supply of strategic minerals, as required by law?

- Are the President's new proposed Stockpile goals adequate, in your opinion, to provide a three-year supply?

(2) Do you think a part of our Stockpile policy should be to provide incentives to recycle and conserve strategic minerals?

- To your knowledge, what efforts are now being made in the conservation area?

(3) What do you think the U.S. Government should be doing to make foreign sources of supply more secure?

(4) Do you think the recent events in South Africa should affect Stockpile policy?

For Mr. Botts

(1) Do you believe the federal government should take steps to encourage private stockpiling?

- Is private stockpiling occurring in your industry?

(2) Do you see a need for additional federal support for research and development of new technologies for strategic minerals?

- What research and development is occurring in your industry to improve the stability of our supply of strategic minerals?

For Mr. Pendleton

(1) The Strategic and Critical Materials Stockpiling Act of 1979, provides that the President shall encourage the use of barter in the acquisition of materials for the strategic minerals Stockpile. Between 1950 and 1967, the U.S. Department of Agriculture conducted a barter program under which 60 strategic and critical materials were bartered for agricultural commodities owned by the Commodity Credit Corporation.

- Why would you support resumption of such barter arrangements?

- Are you familiar with the pending legislative proposals on this subect (S.42 - Senator Nickles, H.R.1766 - Congressman Dorgan)?

- What are your views on these proposals?

APPENDIX II

Additional Material Submitted for the Record

New York Mercantile Exchange

Office of the President

December 19, 1985

Mr. Robert Terrell
United States Senate
Committee on Energy & Natural Resources
Dirksen Senate Office Building 358
Washington, DC 20510

Dear Mr. Terrell:

In the twenty-nine years since platinum futures trading was introduced on the New York Mercantile Exchange, the Exchange has played an increasingly important role in the world platinum group metals market.

Data generated by trading NYMEX platinum and palladium futures are valuable indicators of perceptions of the cash market outlook. The Exchange has also become a useful source of information and analysis of platinum group metal market conditions and trends. A number of Exchange members trade these metals, and the staff keeps in touch with developments in both futures and cash markets.

The Exchange believes that the implications of the use of its platinum and palladium futures contracts by both commercials and investors should be included in Congressional analysis of current proposals to eliminate these metals from the national strategic stockpile. To follow up on discussions with our Metals Advisory Committee member and former member of the Board of Governors Ira Shein, with you, we are enclosing a brief description of platinum group metals trading here.

Please do not hesitate to call on us for further information.

Yours truly,

Rosemary T. McFadden
President

RTM:cr
encl.
cc: Ira Shein
    Board of Governors

Four World Trade Center New York N.Y 10048 212 938-2222

PLATINUM GROUP METALS TRADING ON THE NEW YORK MERCANTILE EXCHANGE

The New York Mercantile Exchange (NYMEX) is a contract market designated and approved by the Commodity Futures Trading Commission (CFTC) to act as a forum for the purchase and sale of futures contracts in energy, metals and agricultural commodities. It is the fourth most active of the eleven United States futures exchanges, and in 1985 ranks first among them in rate of growth.

The Exchange is a not-for-profit membership organization composed of individuals and firms conducting brokerage and proprietary businesses. Member firms include futures commission merchants (FCMs), and businesses with vital commercial interests in the commodities traded on the Exchange. There are currently approximately 700 members, each of whom owns at least one of the 816 seats outstanding. The Exchange is located at 4 World Trade Center in New York City.

The operations of NYMEX are directed by a Board of Governors. Exchange by-laws provide for twelve member Governors who are elected by the membership and three public Governors appointed by the Board. The membership elects a Chairman and a Vice Chairman, positions currently held by Michel D. Marks and Stanley Meierfeld, respectively. The Board appoints a President, a position currently held by Rosemary T. McFadden. NYMEX employs 130 professionals whose responsibilities include administration, clearing operations, floor operations, compliance, research and marketing.

NYMEX was founded in 1872 as a butter and cheese exchange. It operated as a market for agricultural commodities until 1956 when trading was introduced in platinum futures. Trading in palladium, the only other metal in the platinum group with a cash market large enough to utilize a futures market, was introduced in 1968. The NYMEX platinum contract is the second oldest continuously traded metal contract on United States futures exchanges. (Trading in the COMEX copper contract, suspended during World War II and the Korean conflict, has been uninterrupted since 1953.)

In addition to platinum and palladium, the New York Mercantile Exchange also trades an energy futures complex of crude oil, heating oil, leaded gasoline and unleaded gasoline. Average daily trading volume for the complex is the equivalent of 16 million barrels of crude oil and 13 million barrels of refined products. Contracts for natural gas futures and options on crude oil and heating oil futures have been submitted for CFTC approval. The Exchange also conducts trading in a round white potato futures contract for cash settlement.

The NYMEX platinum futures contract specifies a delivery grade of .999 purity in ingot or plate form. The contract unit is 50 troy ounces. Trading is conducted for delivery in the current (spot)month, each of the next two months, and a quarterly cycle of January, April, July, and October. There is also at least one delivery month of the next cycle open. (As of November 26, 1985 trading was open for delivery in December 1985, January, February, April, July and October 1986, and January 1987.)

The NYMEX palladium futures contract also specifies a delivery grade of .999 purity in ingot or plate form. The contract unit is 100 troy ounces. Trading is conducted for delivery in the current (spot)month, each of the next two months, and a quarterly cycle of March, June, September, and December. (As of November 26, 1985 trading was open for delivery in December 1985, January, February, March, June, September, and December 1986.)

Futures markets serve as both public information facilities and trading arenas. They are designed to bring a multitude of trading interests together in a central location for price discovery, price risk management, and investment purposes. An auction market conducted by open outcry establishes prices acceptable to buyers and sellers of contracts for delivery in the spot month and future months. These prices are "captured" immediately by Exchange price reporters and disseminated by computer to quotation vendors worldwide. The settlement price for each day's trading in each contract month is disseminated in the same way. A price determined by open market assessment of all supply and demand fundamentals is, therefore, always available.

Businesses with commercial interests in commodities traded on futures exchanges use the contracts to protect themselves from the risk of price changes in the cash market. They shift the risk to others for whom the same price movement would represent profit rather than loss, either commercials or speculators. An effective futures market depends on liquidity supplied by speculators who actively seek out price volatility for its profit potential.

Commercial participation in NYMEX platinum and palladium futures includes large and small metal trading companies, dealers, refiners, fabricators, and industrial consumers. Commitment of traders reported to the CFTC for September 30 show that 52 traders (principals to contracts) were carrying reportable level positions of 25 platinum contracts (1250 troy ounces) or more. Commercials held 28% of long (buy) positions protecting against rising prices for platinum needed in the futures, and 63% of open short (sell) positions protecting against falling prices for platinum held in inventory. Speculative interests of the reporting level held 14% of open long positions seeking profit from rising prices, and 5% of open short positions seeking profit from falling prices.

In the palladium futures market, 49 traders held positions of 25 contracts or more (2500 troy ounces). Reporting commercials held 24% of open long positions and 75% of open short positions. Reporting non-commercials held 27% of open long positions and 2% of open short positions.

The size of the NYMEX platinum and palladium futures markets is defined by the number of open positions. The platinum market is currently some 900,000 troy ounces.[1] This represents about 38% of the platinum expected to enter the cash market in the market led economics during 1985, which is available in one place to be traded against at any time.[2] Open interest in NYMEX palladium futures is about 700,000 troy ounces,[3] representing about 22% of the palladium expected to enter the cash market in market led economies in 1985.

Average daily trading volume in 1985 has been about 125,000 troy ounces of platinum and 52,000 troy ounces of palladium. NYMEX anticipates total volume for the year of 650,000 platinum contracts and 135,000 palladium contracts. Figures for 1984 were 571,127 platinum contracts and 159,019 palladium contracts.

Trading volume in platinum increased noticeably during November. Average daily volume for the month was 3408 compared to 2649 for the year to date. Record volume of 12,136 contracts, or 606,800 troy ounces, was traded on November 22. Market analysts attribute the rising volume to increasing investor awareness of platinum as a strategic metal and concern about possible interruptions in South African supply.

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[1] As of November 27, exactly 905,600 troy ounces.

[2] Platinum futures are also traded on the Mid-America Commodity Exchange and the Tokyo Commodity Exchange for Industry. Trading volume and open interest in the 25-troy-ounce Mid-America contract is negligible. The Tokyo contract is designed for the Japanese domestic market. Its size is 500 grams (16.075 troy ounces) and it is denominated in yen. October 1985 volume was 66,822 contracts (equivalent to 21,484 NYMEX contracts). Open interest was 33,662 contracts.

[3] As of November 27, exactly 705,400 troy ounces.

Nearly all futures contracts are used as financial instruments. Only a small number, about 3%, are held into the delivery period. The delivery specifications of a contract are a key element, however. The possibility of delivery is what assures the convergence of cash and futures prices at contract maturity, thereby tying the two markets together and making the contract a valid hedging and investment vehicle.

The delivery option also means that the functioning of the futures market can be affected by unusual changes in the supplies of a commodity in deliverable position. Futures exchanges monitor deliverable stocks carefully. They have the authority to raise margin requirements or, in extreme cases, restrict trading if supply and price activity in the market so warrant.

Only platinum and palladium certified by NYMEX approved assayers and held in NYMEX approved depositories may be delivered against the NYMEX contracts. Delivery consists of transfer of ownership by means of warrants, or warehouse receipts. Platinum and palladium are rarely removed from a depository. Most industrial users require metal in a different form from the NYMEX warehouse stocks. In the case of platinum, they use metal .9995 pure; in the case of palladium, they generally require sponge rather than plate. Investors rarely remove the metal because they could not tender it against a short NYMEX position at another time without having it assayed and certified again.

The normal procedure for a commercial with a long position on NYMEX is to close out his futures position by offset when he is ready to buy the physical metal from his usual cash market supplier. In a rising market, the profit on his futures position reduces his total costs to the level "locked in" at the time he initiated his futures position. NYMEX warehouse stocks are generally only used as a "swing" supply. As such, they could act as a modest cushion for industrial users in case of temporary supply disruptions. Over 5000 lots of platinum (250,000 troy ounces) and over 900 lots of palladium (90,000 troy ounces) are currently on hand in NYMEX depositories. These represent approximately 25% of estimated U.S. industrial demand for platinum and 7% of estimated U.S. industrial demand for palladium.[1]

The New York Mercantile Exchange's price discovery, risk management, investment and delivery functions make it an integral part of the world platinum group metals industry. The value of these functions to producers, refiners, and consumers make it an essential part of the PGM industry.

In addition, the Exchange's reporting responsibilities make it a valuable information resource. The NYMEX palladium contract is the only price discovery vehicle for that metal in the world. The platinum contract is the only price discovery vehicle for Western hemisphere, European, Middle Eastern and African trading interests. NYMEX trading data reported in the public news media are widely used to evaluate market expectations.

As public awareness of the importance of platinum and palladium in the national economy grows, we would expect more participation in the New York Mercantile Exchange's futures market.

1. Based on 1984 figures.